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ABSTRACT

This report presents the overview and study of educational programs and employment opportunities in health in Connecticut and in the Northeast. The overview emphasizes recommendations; Connecticut health-related educational programs; Connecticut employment of selected health occupations; projections; state agencies as employer/educator; profiles of health occupations; Northeast data; Connecticut Commission for Higher Education Planning regions; and an appendix with a coordination series, occupational groupings, graphs of projected supply and demand, planning regions, and rate of response for survey questionnaire. The study section describes in detail each of the major areas encompassed in the overview. Statistical data are included. Filmed from best copy available. (MJM)

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OVER VIEW

oral hygiene aide.health care
medical illustrator.psychiatr
electrocardiograph technician
pulmonary function technician
alcohol and drug counselor.da
art therapist.rehabilitation
speech pathologist.audiologis
physician assistant.correctio
nursing aide.pediatric nurse
coronary care nurse.biomedica
cytotechnologist.microbiologi
health educator.dietetic tech
medical librarian.ward clerk.
electroencephalograph technic
community health aide.social
respiratory therapist.pulmona
orthotist.prosthetist.music t
manual arts therapist.recreat
radiation therapy technologis
public health aide.nursing te
licensed practical nurse.hist
dental hygienist.dietitian.en
clinical chemist.microbiologi
ward clerk.psychologist.biome
social service aide.respirato
rehabilitation aide.occupatio
medical office administration

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Study of Educational Programs and Employment Opportunities in Health

PREPARED BY THE CONNECTICUT INSTITUTE FOR HEALTH MANPOWER RESOURCES, Inc

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January 1974

The Organization

The Connecticut Institute for Health Manpower Resources is a community-based consortium of representatives of health and education organizations, government and the health professions, business, labor and consumers of health services. Its activities focus on two major areas of concern -- 1) Information regarding health manpower training, education and utilization throughout the State of Connecticut, and 2) Coordination of these resources for improved communication and possible new institutional arrangements.

Within these basic categories of information and coordination, the Institute functions as a convener, catalyst, advisor or information provider, actively seeking to bring an articulated systems approach to such problems in the health services field as:

1. Recruitment and education of health workers.

2. Centralized information and analysis of manpower needs, careers, education and utilization.

3. The encouragement of inter-institutional and inter-professional collaboration.

4. The fostering of innovations and experiments in the preparation and utilization of health workers while encouraging public acceptance and understanding.

THE CONNECTICUT INSTITUTE FOR HEALTH MANPOWER RESOURCES, INC.
770 Asylum Avenue
Hartford, Connecticut 06105
Tel. (203) 247-5677

ERRATA

for

STUDY OF EDUCATIONAL PROGRAMS AND EMPLOYMENT OPPORTUNITIES IN HEALTH

Title page: Commission on Higher, should read Commission for Higher

A-1: Line 7, Commission of Higher, should read Commission for Higher

B-13: Second to last paragraph: 49% should read 4.9%

B-14: Last paragraph: Will it be... should read It will be....

B-17: Last paragraph: Change should read charge

B-19: Fifth paragraph: Certification should read accreditation

B-24: Recommendation 4 should read: A second supportive activity is required....

On the bar graph for Dental Laboratory Technician, the projected supply should be 680 instead of 530.

March 1974

not by numbers alone...

STUDY OF EDUCATIONAL PROGRAMS AND EMPLOYMENT OPPORTUNITIES IN HEALTH IN CONNECTICUT AND THE NORTHEAST

This study was developed by The Connecticut Institute for Health Manpower Resources, Inc., for the Connecticut Commission for Higher Education in compliance with the Connecticut General Assembly Special Act 73-105 and was partially supported by a grant from the Connecticut Regional Medical Program.

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February 1, 1974

Dr. Warren G. Hill, Chancellor
Commission for Higher Education
P.O. Box 1320 340 Capitol Avenue
Hartford, Connecticut 06101

Dear Chancellor Hill:

The Connecticut Institute for Health Manpower Resources Inc. herewith transmits to the Connecticut Commission for Higher Education the results of a study in connection with Special Act 73-105 concerning the coordination of educational programs and employment opportunities in Connecticut and the Northeast, now and in the future.

It is our pleasure to turn over to you this health manpower report of approximately 500 pages, the contents of which are based mostly on primary data generated during the course of this six-month study from responses to questionnaires and interviews with Connecticut education and employment institutions, including selected State agencies. Institute contact with other states throughout the country concerning their health manpower studies and information systems revealed that Connecticut's study was indeed unique: our legislation required a concurrent study of education and employment, to determine compatibility, within six months for the entire region plus our own state, and to make projections. It is hoped, therefore, that this enclosed study will serve as the first stage in the development of an ongoing health manpower information system for this State.

Appreciative recognition is due at this time for the support provided by the Connecticut Regional Medical Program for additional research included in this study.

It is our pleasure to report that there appears to be no overall crisis in the supply and demand of health manpower in Connecticut. The Commission for Higher Education and its constituent elements, as well as the numerous other Connecticut educational and health care institutions offering health career programs, are producing a sufficient number of programs overall to meet employment demand in Connecticut. The study indicates selected shortages and selected overages for selected occupations:- these require further scrutiny for geographical location, educational level, employment alternatives and additional variables.

We call to your attention the new title for this study, - "Not By Numbers Alone--." It is our earnest plea to you and others who will be using these data for decision making to read on past the statistics to those sections of the study which offer narration, findings, profiles and additional information.

We submit this frame of reference for your consideration: Education for a health profession or health-related career involves a combination of academic courses and clinical training. Both components are necessary to the health educational program offered to the student. Therefore both academic and clinical institutions should be included in the educational orbit. If this logic is accepted, coordination of systems, programs, people, places could occur in an orderly, natural fashion with mutual benefit for all components, especially the student and the eventual consumer of this student's services.

On behalf of the CIHMR Board of Directors and staff, I would like to express appreciation to you, to Lou Rabineau, Bob Bokelman, Francis Degnan, and to your helpful CHE staff for the opportunity to undertake this worthwhile study, and for your encouragement, aid and direction.

Respectfully submitted,

Selma Lee Markowitz

SELMA LEE MARKOWITZ, MPH
Project Coordinator

SLM:ih
Enc.

CONNECTICUT EDUCATION/EMPLOYMENT STUDY FOR HEALTH MANPOWER

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ACKNOWLEDGMENT

A study of this magnitude could not have been developed, compiled and executed without the cooperation and advice of many individuals and groups. To all of these people, we wish to express our appreciation for their continuing assistance and encouragement in the execution of this study.

- To Senator Ruth O. Truex and Representative Rufus C. Rose, co-chairmen of the Joint Education Committee of the Connecticut General Assembly responsible for Special Act 73-105;

  Chancellor Warren G. Hill, Deputy Director Louis Rabineau, Drs. Robert Bokelman and Francis Degnan, Frank McLean and the staff of the Connecticut Commission for Higher Education;

  Director Edward Morrissey, and Edwin Bradley of the Connecticut Regional Medical Program;

  The members of the Board of Directors of The Connecticut Institute for Health Manpower Resources, Inc., a special recognition of their interest, expertise and support:

- To the Presidents and Administrators of the Connecticut educational institutions, their faculties and staff, as well as the central offices of the higher education community and those health institutions providing educational programs -- our sincere appreciation for furnishing responses to questionnaires and interviews;

- To the Directors, Administrators and staff of the employing institutions of health personnel -- thanks for "filling out another one of those questionnaires" and agreeing to be interviewed;

- To the State Agencies for participating in the Mini-Survey to discover their roles as employer and educator of health personnel;

- To the State Licensing Boards, the Division of Licensing and Registration, and Comprehensive Health Planning "A" and "B" agencies for specialized manpower and facilities data;

- To numerous professional, health, and business organizations and individuals for their knowledgeable input toward the validation of this study's findings: Connecticut Hospital Association (Director Herbert Anderson, Robert Healey and Robert Bergeron); Connecticut Association of Extended Health Care Facilities (President Francis P. Dellafera); Task Force to Reorganize Nursing Education and Service (Chairman Barbara Donaho); Connecticut Coalition of Independent Health Professions (President Janet Small plus representatives of 8 health professions);

Connecticut Business and Industry Association (President Arthur Woods); The Hartford Insurance Group (Joseph Gaffney and Samuel Rothchild); Bureau of Health Resources Development, HEW (William Lybrand, M.D., Howard Stambler); American Hospital Association (Barbara Bloom); New England Regional Commission (Robert Merriman, E. Putarys); New England Board of Higher Education (Alan Ferguson, Robert Melican); Dean Stan Katz (Quinnipiac College); George Silver, M.D. (Yale School of Medicine); Dean Frederick Adams, D.D.S., M.P.H. (University of Connecticut School of Allied Health); Willard Duff, Ph.D, and Evelyn Scholtz (Hartford Hospital); Lou Abbey (Mt. Sinai Hospital); Charles Turner (New Haven Institute for Allied Health Careers); Claire Reinhardt, Ph.D, and Gloria Robinson (Vocational Education); Maye Grant (Hartford Process);

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- To those specialists whose consultant skills contributed uniquely to this study: Computer consultant Robert S. Barr and Programmer L. E. Stone of the Rensselaer Polytechnic Institute; Education Director Robert Bergeron of the Connecticut Hospital Association; Myron Howard of the Connecticut Manpower Executives Association; Research Director Alfred Horowitz of the Connecticut State Department of Labor; Public Health Education Chief Milton Geyer, State Health Dept.

- To John Glasgow, PhD, medical economist, Associate Professor in the Office of the Vice President for Health Affairs, University of Connecticut Health Center, for his astute consultation to the total study, its director and staff, and for his development of the population-income Projections and contribution to the Overview section:

- To a bright, enthusiastic, hard-working CIHMR staff: Helene Alisberg, Mae Battles, Celine Bouchard, Robert Chambers, Noreen Daniels, Ilse Hahn, Shelley Hernandez, Nancy Lukacs, Jean Pierre Masse, Stella Meiss, Marilyn Pet, Victoria Roy, Augusta Rubin, Eleanor Glenn Wright - sincere gratitude.

Lucy T. Hammer, President
The Connecticut Institute for Health
Manpower Resources, Inc.

Selma Lee Markowitz, MPH
Study Coordinator
CIHMR Executive Director

GLOSSARY

Allied Health The term ALLIED HEALTH, when broadly used, includes those personnel who support the work of physicians, dentists, and registered nurses in the areas of patient care, public health, health research, and environmental health. Such workers function at professional, technical, or supportive levels to complement and supplement the activities of the principal health professionals.

Program An allied health educational program is a planned series of courses at one particular academic level which includes formal classroom instruction, laboratory instruction, and/or clinical training leading to competency in a specific allied health profession or occupation. Two series of courses which differ significantly in required content, duration, occupational objectives, or educational prerequisites are considered to be two separate programs. A program may be either of the following:

Degree Program Leads to an associate, baccalaureate, master's, or doctoral degree (e.g., medical technology, physical therapy, occupational therapy, medical record science).

Non-Degree Program Does not lead to an undergraduate or graduate degree and may or may not lead to a certificate or diploma.

Certification The process by which non-governmental agency or association grants recognition to an individual who has met certain predetermined qualifications specified by that agency or association.

Licensure The process by which an agency of government grants permission to persons meeting predetermined qualifications to engage in a given occupation and/or use a particular title; or, grants permission to institutions to perform specified functions.

Registration The process by which qualified individuals are listed on an official roster maintained by a governmental or non-governmental agency.

The term certification is used when attesting to a certain level of competency; registration is more appropriately the process by which the certified or licensed individuals are listed on an official roster.

Perhaps more in health than in any other service industry, "need" and "demand" are clouded and confused by interest groups' biases. A given area might have a well-documented need for, say five physical therapists, but as long as the money is not available to fund these positions, there is no demand.

DEMAND The number of jobs that can be financed with current or future funds.

NEED The number of persons in a field who will be required to produce a given level or amount of service judged to be desirable.

The distinction is between social ideals (what people feel ought to be done) and economic realities (what people are able to pay for).

FINAL LIST OF HEALTH OCCUPATIONS COVERED IN CIHMR STUDY

Administration
- Hospital Administrator
- Nursing Home Administrator
- Health Care & Services Administrator

Dental
- Dental Hygienist:
  - A.S.
  - B.S.
  - Degree unspecified
- Dental Assistant
- Dental Laboratory Technician

Dietitian

Education
- Health Educator
- Teacher, Special Education

Environmental Health
- Environmental Health Technologist
- Environmental Health Technician
- Environmental Health, unspecified

Laboratory
- Histologic Technician
- Cytotechnologist
- Certified Laboratory Assistant
- Medical Laboratory Technician
- Medical Technologist

Laboratory, Cont'd.
- Med. Tech. & M.L.T. combined
- Medical Laboratory Assistant (OJT)

Medical Records
- Medical Record Librarian
- Medical Record Technician
- Medical Transcriptionist

Nursing
- R.N.
- L.P.N.
- Nursing Aide
- Psychiatric Aide
- Correctional Attendant I
- Pediatric Nurse Associate
- Adult Nurse Practitioner
- Nurse Midwife
- Nurse Anesthetist

Physician Assistant
- Physician Assistant in Pathology
- Physician Associate

Radiology
- Radiologic Technologist
- Radiation Therapy Technologist
- Nuclear Medicine Technologist

Rehabilitation Therapy
- Speech Pathologist and Audiologist
- Counselor, Rehabilitation Services
- Rehabilitation Aide
- Orthotist and Prosthetist

Physical Therapy:
- Physical Therapist
- Physical Therapy Assistant
- Physical Therapy Aide

Occupational Therapy:
- Occupational Therapist
- Occupational Therapy Assistant
- Occupational Therapy Aide

Recreation Therapy:
- Recreation Therapist
- Recreation Therapy Assistant
- Recreation Worker
- Recreation Aide

Respiratory Therapy
- Respiratory Therapist
- Respiratory Therapy Technician
- Pulmonary Function Technician

Social Services
- Social Worker:
  - M.S.W.
  - B.S.
  - Degree unspecified
- Social Service Aide
- Community Health Aide
- Mental Health Worker

Technicians
- Biomedical Equipment Technician
- Surgical Technician

Additional Occupations
- Clinical Psychologist
- Pharmacist
- Medical Librarian
- Biological Photographer
- Medical Illustrator

OVERVIEW - EDUCATION/EMPLOYMENT STUDY IN HEALTH

I. INTRODUCTION

A. Background

Legislators, educators, and employers have long been concerned with the lack of attention given to the match between the occupations and professions for which the schools were preparing students and the level of employment demand for those fields. This lack of attention to the educational/employment match led to predictable results - surplus jobs in some fields or areas while in other fields well-prepared graduates could not find employment. This problem, increasingly evident in the last few years, led the Connecticut State Legislature to pass Special Act 73-105 Concerning the Coordination of Educational Programs with Employment Opportunities.

Effective July 1, 1973, Special Act 73-105 called upon the Commission for Higher Education to undertake a study of the problems with respect to the courses of study offered at the constituent units of the state system of higher education and the opportunities for employment available at present and as projected in the future, in Connecticut and the Northeast, in relationship to such courses of study. Said Commission shall report its findings and recommendations to the joint standing committee on education on or before February 1, 1974.

The Commission for Higher Education considered the requested study "to be an imperative and extensive undertaking of critical importance to the state in its planning effort to provide programs that relate to the state's and region's manpower needs." At the same time, the Commission recognized that the charge, taken literally, called for an examination of all courses of study in all state colleges and universities in Connecticut and all the other Northeastern states and a comparison of the output of these courses with all employment opportunities in all fields and geographic areas for which any course of study might prepare a student. Furthermore, this task was to be accomplished in eight months. Obviously, the job could not be done within that time constraint. Consequently the Commission decided to limit the initial phase of the study to a single major employment field, the health industry.

The study of health manpower as the first phase was dictated by several considerations. First, the health field is large and complex whether viewed from the educational side or the employment side. For example, in Connecticut 134 institutions offer 334 health-related educational programs in 91 health occupations and professions. This includes 12 vocational-technical schools providing 4 types of health programs. Forty-six high schools provide instruction in 5 health-related areas. Of Connecticut's 46 institutions of higher education, 29 are involved in health careers education,

offering a total of 140 programs for 57 career specialties. At least 2 proprietary schools offer education in health careers. Forty-one employing institutions provide 111 programs for 26 careers: hospitals, nursing homes, and other employers provide in-service training for their employees as well. Several Connecticut State agencies offer health-related educational programs. The spread and diversity of Connecticut health educational programs and its employment methods and patterns manifest a uniqueness and complexity requiring special study.

Second, it is a rapidly expanding industry. Indeed, it has become the single largest industry in the United States. Rapid expansion coupled with major financial, organizational, and technological changes has resulted in critical problems with respect to the diversity of categories of professional competence, the variety of programs being developed in our colleges and universities, and the shifting patterns of employment. It has also led to a situation in which educational institutions, encouraged by a variety of federal and state subsidies, have rushed into new programs designed to meet the manpower shortages which had to exist in such a rapidly expanding industry. Unfortunately, the documentation of those "shortages" left much to be desired.

In short, the Commission recognized that health manpower may be rapidly approaching its own critical point. If problems such as those facing the teaching profession were to be avoided, the area needs attention now.

Having made the choice to initially concentrate on health manpower, the Commission in August, 1973 contracted with the Connecticut Institute for Health Manpower Resources, Inc. to actually undertake the study and to report its findings to the Commission by January 1974.

B. Study Objectives

The objectives of the study to be conducted by the Institute, as jointly agreed to with the Commission, were:

1. To examine the current and projected supply of health manpower in selected health professions, with particular attention being given to those professions or occupations for which most of the state's institutions of higher education provide training or educational programs and/or which require licensure, certification, and/or registration.

2. To examine the current and projected requirements for these same professions or occupations, with particular attention being given to employment opportunities in the hospital and nursing home sector.

3. To make recommendations based on an analysis of the data reported above about the need for retention of presently offered courses of instruction and/or development of alternative courses; and the form and content of a health manpower information system.

Examination of these objectives make it clear that, while a study limited to health manpower was narrower than the total mandate of Special Act 73-105, the scope of the proposed study was more extensive than that suggested in the Act. For example, the information to be collected extended beyond the recognized constituent elements of the higher education system to the high school system, hospital schools, proprietary schools, and state agencies. In addition, although on-the-job training programs were not part of the study proper, it was decided to report such programs uncovered during the course of the study. Finally, on the employer side, the majority of institutions and employers concerned with the delivery of health care were studied. These included both the customary major employers of health personnel as well as some employers not usually considered, such as industrial and school infirmaries, drug clinics, physical therapy contractors, and central offices of state agencies. In all, over 1,500 institutions and facilities* were surveyed during one or more parts of the study.

C. Overall Study Approach

Whenever feasible, secondary information was to be utilized in preparing the study reports. However, for the most part, reliable and current data relating to Connecticut employment opportunities and educational programs in the health field simply did not exist. Furthermore, those previous studies which were available had examined either employment opportunities or educational programs, but not both; were concerned with a limited selection of occupations, usually the licensed professions, while the present mandate was to include the many, non-licensed, registered, or certified occupations;

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* It should be noted that an approach was made to both the State Medical and Dental societies to include their members in the study of employers. However, the time available did not allow the development, review, and testing of a questionnaire acceptable to those groups. It was decided, therefore, to concentrate on institutions and facilities.

or were primarily concerned with a description of "what was" when the need was for information to guide decisions about "what is to be". Thus, it was clear that completion of the study would demand primary data collection.

1. The Primary Data Collection*

In preparation for this effort, consultations were obtained from educational program directors; hospital and nursing home administrators; personnel directors; individuals at the local, state, and national level known to be knowledgeable about and/or involved in the health manpower field; professional associations; and a wide variety of voluntary and governmental bodies. These discussions resulted in the development of three separate, although closely related, questionnaires designed to accomodate the three basic populations surveyed; the educator, the employer and the employer/educator. Variations of certain pages were developed to adapt the questionnaire to sub-divisions within these populations. Each questionnaire had two parts: an objective section which requested basic information about the program involved and a subjective section designed to elicit personal views in selected areas.

a. The Questionnaires

The educational questionnaire requested the following current (as of October 1, 1973) supply information for each health related educational program offered by the respondent: the number of graduates over the last four years; the current enrollment with number female; and of the first-year class, the number of applicants, capacity and number expected to graduate. Also requested was information on how many graduates of these programs found employment in their field and where.

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* In this overview section, it is impossible to discuss in detail all aspects of the study methodology involved. However, for those interested, the details may be found in the Appendix on Methodology. There one may find such things as mailing lists, the questionnaires, processing and coding procedures, regional maps, and other particulars. In addition, individual sections of the report will provide detailed information on specific methodologies related to the development of that specific aspect of the study.

The educational subjective questions were, in part, directed towards finding out plans for expansion, consolidation or deletion of health occupations programs. Other questions concerned placement methods for graduates, requests from employers regarding graduates and barriers to training and employment in the health field.

The employer questionnaire was designed to provide demand information on current employment and subjective material as it applied to a particular situation. For each occupation employed the statistical information sought as of September 17, 1973 included: current employment, full-time and part-time with number female; the number of full-time and part-time vacancies and new positions; the annual turnover; and perceived projections for 1975 and 1980.

The subjective portion of the employer questionnaire aimed at determining expansion plans in a more definitive way. Opinions on the effects of National Health Insurance and the Commission on Hospitals and Health Care on employment patterns were solicited. Respondents were asked to comment on their hiring practices, trends in employment and the possibility of a Health Job Bank.

For those employers who were also educators of health personnel, a questionnaire was designed which obtained both the basic statistical data on employment and on current educational programs. However, the subjective questions were made more appropriate to an employer situation than to an educational situation.

b. Interviews

As previously noted, over 1,500 institutions and facilities made up the universe surveyed by mailed questionnaire. In addition, in an effort to add more depth to the information gathered from the responses to the mailed questionnaires, a sample group of over 100 employers and educators were personally interviewed either by Institute staff or volunteers provided by agencies related to health manpower*. Those selected were done so in

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*Volunteer interviewers were provided by:

Comprehensive Health Planning "B" agencies of Hartford, Bridgeport, New Haven and Middletown; the New Haven Institute for Allied Health Careers; the Community Renewal Team of Hartford, and community colleges. The questions asked during the interview were the subjective questions of the questionnaire.

a way which ensured a representative sample of types of facilities and programs, geographic location, and nature of ownership (e.g. state, private, profit,non-profit).

Telephone interviews were also conducted once questionnaires began to be returned in an effort to reduce incomplete or questionable responses. The results of these efforts, together with the usual follow-up contacts and some unusually active help from cooperating associations, was the good rate of return indicated in the table following.

RATE OF RETURN FOR INSTITUTIONS SURVEYED

	Number Surveyed	Number of Returns	Percent
Hospitals:			
General Hospitals	39	38	97%
Chronic Disease Hospitals*	7	6	86%
Psychiatric Hospitals	14	12	86%
All Hospitals	60	56	93%
Educational Facilities:			
Higher Education			
Independent Institutions	22	22	100%
Federally Supported Institution	1	1	100%
State University	1	1	100%
State Colleges	4	4	100%
Regional Community Colleges	12	12	100%
State Technical Colleges	4	4	100%
High School Boards of Education**	29	22	76%
Vocational Technical Schools	15	15	100%
Proprietary Schools***	6	4	67%
Other****	4	4	100%
All Educational Institutions	98	89	91%
All Other Employers	1,252	368	29%
All State Agencies*****	137	121	88%

* - Omitted from this figure is St. Joseph's Manor, Trumbull, Ct., as it is combined with a nursing home and included in the category of All Other Employers.

** - Includes only those Boards of Education known to have health related programs as of August 1973.

*** - The likelihood of having health related programs was the basis for selecting proprietary schools to be surveyed.

**** - Includes one industrial facility (dietetic internship), two state departments and one graduate school unaffiliated with an undergraduate institution. (The other two unaffiliated graduate schools did not have programs within the limits of the study.)

***** - Includes all central offices of state agencies related to health manpower and all public school health personnel. It should be noted that the majority of the returns refers to the separate returns for each of the public schools concerned.

The overall rate of return of 41%, while quite high, obscures the fact that there was over a 90% return from the major employers of health personnel and a virtually 100% return from the major educators of health personnel. Further, even in the group with the low response rate, analysis of the respondents indicated they were broadly representative of the employers in that group in terms of size and type of facility and geographic location. As a result, the information reported in the various parts of this total study is felt to be an accurate representation of educational programs and employment in the health field in Connecticut.

Rates of return for each type of facility surveyed are presented at the end of this report.

c. Reporting

The information collected from the returned questionnaires and during the personal interviews are reported in detail in subsequent sections of this study. Specifically, Section C covers the data, and analysis of the data, related to Health Related Educational Programs. While the study, its format, analysis, and conclusions must be the sole responsibility of the Institute, it should be pointed out that during the analysis phase, and prior to drawing of conclusions and framing of recommendations, the staff met with multiple consultants, associations, planning agencies, and educational groups to review the reported data. The feedback from these meetings materially improved the analysis as well as suggested additional conclusions or recommendations. Section D includes the information on Health Employees in Connecticut.

These individual sections, as well as others to be described, have been prepared as basically individual reports. This overview will include a summary of the major findings of each of the six individual sections. Since the total report constitutes over 500 pages, only this overview section will be generally distributed. However, anyone interested in specific sections of the total report may obtain copies from The Connecticut Institute for Health Manpower Resources, Inc.

2. Supplemental Information

In addition to the basic data on current educational programs and employment and the implications of these for future supply-demand matches, the study approach developed by the Institute involved the development of several other sub-reports. These other reports were designed either to carry out specific parts of the legislative charge as defined in the study's objectives (e.g. to project supply and requirements) or to more adequately define the current health services situation as part of the total information base needed to develop meaningful conclusions and relevant recommendations. It was also felt that many of the additional studies would bring together, in many cases for the first time, information highly useful to individuals responsible for student counselling, program development and evaluation, or health related planning. For example, Section G includes a series of Occupational Profiles. These profiles provide information on the nature and locus of employment, licensure and educational requirements, and educational facilities available in the nation, the Northeast and in Connecticut. Numbers of persons employed, sex and other pertinent data have been included, when available.

To prepare this section of the study, staff used research materials from the Department of Health, Education and Welfare, the U.S. Department of Labor, from studies carried out in Connecticut and other states across the nation, and information provided by professional organizations and various persons professionally active.

Still another section, Section F: State Agencies as Employer/Educator, provides a"first-cut"examination of a largely unrecognized major employer as well as formal and informal trainer of health-related personnel. To our knowledge, no other health manpower study covers the broad spectrum of state agencies in this dual role.

Section E on Supply and Requirements Projections, while recognizing the great difficulty in attempting state projections , particularly in a field as dynamic as health, does provide useful quantitative estimates based on (a) employers' perceptions of budgeted positions available in future years; (b) service utilization increase estimates given population and income changes; and (c) potential impact of national health insurance on services utilization and therefore on the demand for health manpower.

Finally, Section H utilizes data from several sources to provide information for the Northeast Region about the educational programs offered, student enrollment, hospital employment, supply of active workers in selected occupations, and services available.

In total therefore, the study approach involved mailed and personal surveys; extensive consultation; the conduct of six individual, but related substudies; the utilization of primary and secondary data; and exhaustive review of the literature. The product of all this is summarized in the next section of this overview.

II. MAJOR FINDINGS OF THE INDIVIDUAL STUDIES

As the previous section noted, the total report includes detailed sections related to the six major areas of study. In this overview, however, only the major findings have been reported. However, as in the total report, these findings will be discussed in relation to the individual studies.

A. Connecticut Health - Related Educational Programs

- In Connecticut alone, 132 facilities offer formal training in 91 health related careers. The informal on-the-job training conducted in most hospitals, and in other institutions, has not been fully measured, but enough is known to indicate the result is to further swell the total number of facilities offering career training and the number of fields involved by a considerable margin.

- From the CIHMR 1973 publication, Health Careers in Connecticut, 77 institutions were known to offer 246 post-secondary educational programs. The current data reveals 86 institutions offering 282 health programs.

- More private and public colleges, proprietary and vocational schools are starting health career programs. Hospitals and other health care facilities are phasing out health programs and affiliating with educational institutions.

- Although not caused by this trend, the movement towards assumption of the training responsibility by educational institutions has increased points of friction between employers and educational institutions. Specific examples of this would include:

  . Title of educational programs do not fit employer career titles. Confusion among employers and educators results, oftentimes producing overeducated personnel.

  . Employers indicate that graduates of some programs do not possess the usable skills necessary to fulfill job functions.

  . The necessary clinical training provided by health care facilities is not reimbursed by educational institutions, forcing hospitals to finance education through patient charges. Yet other state agencies (e.g. the Commission on Hospitals and Health Care), in attempting to curtail health care costs, are reluctant to accept these costs as justification for rate increases.

- Insufficient attention is given by educational institutions when planning programs involving clinical training to demands for such training places on individual hospitals from other, existing programs.

- On the other hand, the increasing introduction of educational institutions into the health manpower training field has had major beneficial results. Among these are:

  . The increased usage of contractual arrangements between health facilities and educational institutions gives formal recognition to employers as educators. It also provides standardization of training between hospitals.

  . Career mobility is limited by the lack of recognition and standardization of on-the-job training. Joint employer-educational institution programs introduce educational standards which tend to enhance the training of lower-level jobs and therefore worker mobility.

  . Attempts at career ladder concepts are being introduced.

- Cooperation between educational institutions is on the increase. Nevertheless, enrollment in some educational programs remains under-subscribed while in others it is over-subscribed.

- Retention of students trained in Connecticut institutions varies both in terms of specific fields of study and in terms of length of study. In general, however, at the present time, 91.1% of the graduates of programs a year or less in duration remained employed in Connecticut. Of the two year and associate degree graduates, 74.3% found employment in Connecticut. The percent of combined graduates of programs 2 years or less in duration, remaining employed in Connecticut is 86.4%. Fifty and two tenths percent of the four year and baccalaureate graduates found employment in Connecticut; forty-eight and one tenth percent of the Masters and Ph.D. candidates were employed in this state.

- In general, the capacity of presently existing educational programs and the number of students enrolled are sufficient, given present attrition rates and state retention of graduates, to meet expansion and replacement needs of employers. Some notable exceptions however, may be found in several newly opened programs which are still building enrollment and programs for clinical dietitians and clinical psychologists.

- Many facilities, and particularly hospitals, will continue to run on-the-job training programs, in order to fulfill their own needs for entry level workers, to provide instruction in specialty skills, or to offer continuing education opportunities to employers. This existence of on-the-job training has two implications: (1) for many entry level jobs (i.e. nursing aides, physical therapy aides, and dietetic aides) it may be inappropriate to say there is any demand for educational program graduates since the employers can, if necessary, train individuals to match the need and (2) for many individuals, the training received is non-transferrable if employment is desired elsewhere.

B. Health Employment in Connecticut

Employment opportunities for graduates of programs for health occupations were reported by 15 different types of facilities, ranging from general hospitals, nursing homes, etc. to the specialized physical therapy contractors and dental laboratories. These facilities combined, represent over 1,200 different individual employers. This figure excludes the many private physicians' and dentists' offices which also employ significant numbers of personnel.

- Approximately 41,000 people in the 57 different occupations studied are employed in the surveyed facilities. General and V.A. hospitals were the single largest employers with 17,300 people. All the hospitals combined employed 21,900 health careerists. Nursing homes are the second largest single employer with 12,200 people. All extended care facilities employ 13,200. The state, including state hospitals, employs 4,670 or 11.4% of the total health workers reported by all facilities.

- Approximately 68% of all health occupation employees work full-time and 32% work part-time. The ratio of full-time to part-time workers in hospitals is almost identical to that for all facilities combined. However, nursing homes, rest homes, and school infirmaries have a higher than average proportion of part-time workers (about 45%). Several other facilities, psychiatric hospitals, dental labs and local health departments, for example, have a much greater proportion (over 90%) of full-time workers. Notably, only 1.1% of state employees (excluding state hospitals) work part-time.

- For all facilities surveyed, 80.7% of the full-time workers and 95% of the part-time workers were female. With only two exceptions, NHCs - HMOs, and group practices, there was either an equal or greater proportion of females in the part-time workers than in the full-time workers. Of the individual occupations, the nursing group had the highest ratio of part-time to full-time workers.

- The institutions surveyed reported a total of 1,547 job vacancies of all types. This represented a vacancy rate of 4.3%. According to a representative of the Connecticut Hospital Association, a vacancy rate of 3 - 5% is probably the minimum possible at this time. Therefore, it appears that employers, overall, are not experiencing any extreme difficulty in filling positions. However, certain specific types of facilities exhibited relatively high vacancy rates. Both psychiatric and chronic disease hospitals reported average vacancy rates of 9.0% and 7.7%, respectively. The state as an employer also experienced a vacancy rate approximately double that of all facilities combined. Neighborhood health centers and HMO type organizations indicated the highest vacancy rate of 14.1%. School infirmaries (9.7%) and, dental labs and physical therapy groups (6.5%) also indicated vacancy rates above the average. However, upon detailed examination of the data, it is questionable whether these high rates are due to an actual difficulty in hiring, or to recent expansion or other causes. In terms of occupational groups, social services had a higher proportion of vacancies, while radiology had a comparatively low rate.

- The average annual turnover rate for all occupations in all facilities is 22.2%. Facilities exhibiting the highest turnover rates are nursing homes at 30.5%, school infirmaries at 32.9%, voluntary health organizations at 32.5%, and drug clinics at 29.0%. The lowest rates were found in industrial infirmaries, (7.6%) and local health departments (4.2%). Turnover in general hospitals, at 22.5% is approximately equal to the overall average.

- The employers surveyed indicated an increase in employment opportunities ranging between 9.8% and 16% by 1975, and 15.6% and 25.8% by 1980. Specific types of facilities and/or programs show much greater increases, however, including rest homes, dental labs, neighborhood health centers and HMO's, physical therapy groups, and drug clinics.

- In the surveyed facilities, nursing personnel accounted for 75% of the total current employment. Laboratory workers were the next largest group at 4.9%, followed by rehabilitation occupations with 4.3% of all employees. Radiology, social services and dental occupations accounted for between 2.2% and 2.5% each. All other occupations made up the remaining 8.7%.

- The state through its various agencies and facilities, appears to be a significant employer (i.e. employs 20% or more) of several occupations or occupational groups including clinical

psychologist; psychiatric aide; social services in general, social worker in particular; rehabilitation therapy in general, occupational therapy (all occupations), and counselor, rehabilitation services in particular.

- A comparison of the occupational distribution of the current work force with the distribution of future employment opportunities as perceived by the employers indicate a slight decrease in the proportion of jobs held by the nursing group (from 75.8% of the current employment opportunities to 72.8% of the projected employment opportunities for 1980). Laboratory, radiology, and the combined groups remain approximately the same. However, rehabilitation, social services and dental all show a slight increase in the proportion of future employment: 4.3% to 5.1%, 2.2% to 3.0% and 2.4% to 3.0%, respectively.

By and large, the predominant view of surveyed employers was that the supply of workers available was adequate for their needs. Some concern was expressed about specific fields such as medical record librarians, biomedical equipment technicians, and nuclear medicine technologists. In other fields, such as registered nurse, the employers felt an over supply existed, although they did have difficulty in hiring in these fields for specific shifts or in specific types of facilities (e.g., extended care facilities). Moreover, the employers often expressed the view that the shortage was not of sufficent nurses and nurses aides who were willing to work, but of adequately clinically trained and reliable personnel. Few suggestions of programs which were no longer needed were made by the employers although several hospitals mentioned an oversupply situation existed for radiologic technologists and licensed practical nurses.

C. Supply and Requirement Projections

The temptations will be great to either dismiss the supply-requirements projections entirely on the grounds that the situation is too complex and dynamic to allow accurate predictions of either supply or requirements. It will be equally tempting to make quick comparisons of the projected numbers and conclude specific programs areas should be cut back or eliminated. Either action would be in error. The projections are not predictions. They are based on

assumptions which may prove wrong. At the same time, the projections provide more information than was previously available and an evaluative framework which, when supplemented by other information, can significantly improve the process within which educational program decision-making takes place. With this in mind, the projections and the analysis of these projections indicated:

- Overall, there is a reasonably close "fit" between what is likely to be required and the supply of trained workers available. This suggests that educational institutions and the Commission are doing an adequate job, in general, of proposing and reviewing new programs and/or the continued need for existing programs.

- Certain fields, however, already appear to be beyond the saturation point just on the basis of present supply and projected state graduates minus normal attrition. These include such diverse occupations as nurse midwife, cytotechnologist, radiologic technician, occupational therapy assistant, recreation therapist, recreation therapy assistant, respiratory therapist, respiratory therapy technician, social worker, and social service aide. In each of these fields, the projected supply exceeds the most liberal requirement estimate by 50 percent or more. Several other fields -- such as health educator and hospital, nursing home, and health care administrator -- are probably near or at the saturation point, particularly since these fields are characterized by substantial interstate mobility of trained workers. However, insufficient quantitative data is available to allow more than that qualitative assessment.

- Other fields would appear presently to be experiencing, or heading toward, a manpower shortage. These include nursing aides, dietitians, psychiatric aides, medical transcriptionists, special education teachers, clinical psychologists, and nuclear medical technologists.

- Still other occupational fields may or may not experience a shortage situation in the next few years, but the evidence is less clear or the field is too new to allow adequate judgments about the rate of adoption of (and subsequent demand for) these workers. In this category, one might include such occupations as nurse practitioners and physician assistants. At the moment, however, these fields appear to be supplied adequately and/or have sufficient people in training to insure either sufficient or surplus numbers to meet expected needs.

- A number of occupational fields exist in which the absence of data absolutely precludes definitive statements. These include: biomedical equipment technician, biological photographer, medical illustrator, and community health aide. However, the relatively small number of employment opportunities for these fields cited in the employer surveys does indicate little total need for programs in these areas.

- Finally, in one occupation, Registered Nurses, the present study confirms to a significant degree, a previous study's conclusions that the time had come to shift from an emphasis on encouraging more graduates per se to an emphasis on the development of only those programs which further specific educational goals (i.e., to shift the proportion of nursing students receiving a specific level of educational preparation.)

D. State Agencies As Employer-Educator: A Mini Survey

- A survey of nine state agencies indicated these engaged in a surprising amount of activity both as employers and trainers of health related personnel. In fact, even in a limited survey, there was identified 4569.5 full-time equivalents employed by the state in the 68 different health occupation categories included in the total study. This number did not include all the on-the-job training employers, as well as some of the professionals we did not examine in detail. Our mini-survey actually identified 8426.5 full-time equivalents employed by Connecticut state agencies. The additional number representing special education teachers and employees in the Department of Mental Retardation for which recent information was received.

- This total represents at a minimum 11.4% of the state's total employees (40,148.5 FTE) expressed in full-time equivalents.

- The survey responses raised a number of critical issues, particularly related to salary, which levels affected the ability of these agencies to effectively compete for qualified employees; to adequately and quickly respond to changes in service demand or technology; to coordinate programs; and to provide training of recognized high quality at an economical cost which insures the trainee appropriate mobility within state employment or to employment elsewhere.

- These issues, and the important questions they raise, questions which could not be examined in this mini-survey, prove the need for a much more detailed examination of the role and function of state agencies as part of the system of education/training in Connecticut.

E. Occupational Profiles

- The section related to Occupational Profiles was basically designed to provide individuals such as counselors with the most current information about the various health occupations. Thus, it assembles, in one place, such informational items as: the name of occupation, its definition in terms of function and responsibilities; employment sources and employment statistics (number of workers, sex, age, distribution); licensure, registration and certification requirements; attention to educational requirements; and, available programs. This information is reported for several levels: the nation as a whole, the Northeast, and the State of Connecticut.

- Primarily descriptive in focus, this section was not designed to elicit "major findings" similar to the other parts of the study. Nevertheless, the development of the profiles did further document many of the conclusions reported elsewhere as well as suggested other important points which merit consideration.

- Commonality in the definition of health careers, job titles and functions does not exist between educators and employers. This results in ineffective communication, unrealistic expectations of job availability or worker preparedness, and inconsistent or imcompatible data. This problem is particularly acute in the emergent occupations such as the Physician's Assistant. Ultimately, all of this negatively affects the student.

- The trend toward increasing requirements for formal education or training as a prerequisite for employment or professional recognition makes it increasingly imperative that there exist more structured guidelines outlining the expected responsibilities of the cooperating educational and medical institutions. Similarly, the tremendous growth in health occupational programs, many of which require clinical experience in a real care setting, demonstrate a need for a mechanism for coordinating requests for clinical training positions and the number of such positions available. Finally, the desire for profession or individual upgrading emphasizes the growing interest in, and need for, continuing education and the development of proficiency and equivalency examination.

- Many of the trends observed in the health fields, raise important questions which require extensive study. For example, the trend toward the promotion of licensure, certification, and registration which accompanies the emphasis on more education and professional identity creates problems of reciprocity between states. Professional rigidity and fragmentation may occur as a result of the premature standardization of jobs or professions. Changes in the male or female proportion of an occupation can affect productivity levels and therefore supply and requirement totals. Complicating all of this is the trend in many occupations toward serving new populations in new settings and in relative independence (i.e., as consultants, under contract, or without direct physician supervision).

F. The Northeast Data

Special Act 73-105 called for consideration of problems and employment opportunities in the Northeast area as well as in Connecticut. A major effort was made to respond to this charge. Personal contacts were made with key people representing agencies such as Comprehensive Health Planning, Regional Medical Programs, Health Careers Councils, health departments, and education departments in each of the Northeastern states. In addition, contact was made with the Division of Manpower Intelligence, Bureau of Health Manpower Education (DHEW). In the section of the total report related to the Northeast, the pertinent data on studies collected during these contacts have been compiled in a series of tables and inventories. These include a tabulation of selected health programs in the Northeast, a listing of training institutions and courses available in each state, data on the number of health professionals

of various types active in the Northeast, and a listing of specialized services offered by hospitals in the Northeast. In fact, these individual pieces of information begin to indicate potential employment sources and competing supply sources. Unfortunately the data available in most states differed widely in terms of both scope and compatability. Indeed, data obtained from different sources about a given state were on occasion contradictory. Thus, without conducting a study similar in magnitude to the present study in each state, definitive answers are impossible. Consequently, the major finding in this area might well be expressed as the need for the conduct of such studies elsewhere. Failing that, the need exists for increased coordination of the New England states' information collection efforts and improved exchange of collected information.

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RECOMMENDATIONS

III. Where Do We Go From Here?

The individual parts of the total study summarized above highlight the problems of coordination, adequate data, supply and demand, mobility, and evaluation which characterize and constrain the education and employment of health personnel in Connecticut and in the nation. At the risk of redundancy, these problems and constraints need to be reemphasized:

- Health education and training require a combination of academic and clinical teaching and experience.

- Coordination between the academic and clinical elements has not been sufficient to assure joint curriculum development for relevance to both education and job requirements; nor have there been official arrangements between educational institutions and clinical facilities for guaranteed number of clinical places for students accepted into academic programs or for the assurance and reimbursement of clinical supervision.

- The growth of the numbers and kinds of formal health programs training for health occupations has been at a rapid rate. Occupations, many of which had been previously taught on-the-job apprentice fashion, are now developing formally and moving into the area of higher education.

- Many of the health occupations require licensing and registration for its practitioners, official approval and accreditation for its programs.

- Career mobility within health fields has been inconsistent, ofttimes requiring the student to repeat training rather than moving forward from his or her level of knowledge and training.

- Geographic mobility of health students is affected by the level of education, job responsibility and

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salary as well as age, sex and marital status.

- The definitions of health careers, job titles and functions are not commonly held by educator and employer resulting in ineffective communications and unrealistic expectations, both of which negatively affect the student.

- Data on students, programs, jobs, vacancies--their numbers, kinds, levels, and location--have not been gathered in a consistent fashion by the institutions which educate, train, and employ health personnel. Single studies are ofttimes incompatible to others in specificity of time, or definition of terms.

Knowing the problems and constraints, and Connecticut is not unique in facing these, the main question is what do we do about them? Where do we go from here? The answers to these questions, it would appear, are fairly clear and, in fact, have been stated in many different ways and forms.

First and foremost, if the state is to utilize both existing and yet to be established health education programs and clinical sites in ways which most effectively serve the needs of students, employers, and institutions, there must be established some vehicle for coordinating their various activities. The rationale underlying the need for coordination is so well-recognized that to call for its existence may sound naive. However, less clear and less accepted is the rationale underlying who should be coordinated and in what aspects of their activities and why. Yet without understanding and acceptance of that rationale, recommendations for a specific coordinating mechanism and role cannot be considered from any real perspective.

Basically, the coordinating mechanism (and its functions) to be recommended evolves out of the recognition that increasingly the education for a health profession or a health related career involves a combination of academic courses and clinical training. Both components are equally necessary to the health educational program offered to the student and therefore both should be included in the educational orbit. Moreover, hospitals and other service institutions do more than passively provide clinical training sites. These institutions also initiate a considerable number of formal and informal programs. Indeed, in some such institutions clinical training is a major responsibility. Despite this, there exists no formal recognition of these institutions as essential components of the health career education orbit.

Similarly, in Connecticut, 40 health institutions in addition to high schools, were identified which initiate formal health career education programs but which are not now included in the higher education orbit. Finally, informal programs occurring in state agencies also have no formal linkages with the higher education system. Thus the basic premises underlying our recommendations is that until these groups, and particularly the facilities providing essential clinical training, are brought into the education orbit in some fashion, it will be difficult, if not impossible, to achieve the level of

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coordination required for quality programs which are available, accessable and economical.

Second, effective functioning requires true intersystem coordination. That is, all educational institutions, as defined above, involved in program planning must engage in an organized system of current, reliable, and shared information. They must engage also in a continuous examination of programs conducted within the system as a whole and in individual institutions. Efforts in this direction have been started with such things as the Commission's regional grouping of institutions of higher education, some of the consortiums being developed by individual schools, and the joint or shared programs conducted in specific professional areas. But much more needs to be done both in the area of joint planning of curriculum for health programs and the sharing of faculty and facility resources if the concepts of core-curriculum-clusters and articulated career ladders are to become more than rhetoric. Much more needs to be done in the way of examination of the appropriateness of location of some educational programs and the assessment of needs for new or different educational programs. Thus, the second premise underlying our recommendations is that true coordination can't be based on piece-meal evidence inadequately examined on an infrequent basis. It requires an on-going method of information, analysis, and evaluation which is adequately supported.

We recommend therefore that:

1. The Commission should appoint, or promote the formation of an official Health Manpower Committee at the statewide level. Membership of the Committee should include representatives from major state agencies responsible for the planning of data collection related to employment and training of health manpower; educational and employer institutions and facilities; and, health professions.

   The functions of this Committee should include:

   a. The continuing study of problems involved in, and recommendations related to, improved information exchange and identification of information needs;

   b. The development of effective working relationships with educational, professional, or CHP agencies necessary to monitor the need for specific types of manpower, educational programs, or collaborative relationships in specific geographic areas;

   c. The recommendation to the Commission, and others, of the need for such programs or coordinating activities; and

   d. The conduct of specific studies about emerging occupations: utilization, organizational, and financial trends affecting the employment or productivity of health manpower, and barriers

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to effective use of manpower.

In short, the Committee's function would be to develop both short and long range plans for health manpower education to help guide the Commission's resource allocation decisions. The starting point for such a Committee would be the information presented in this total study. For reasons detailed in the Projections section, it would be premature to recommend, at this time, to either the Commission or to such a Health Manpower Committee specific actions which they might take with regard to individual educational programs. However, it would not be premature to suggest some of the more pressing areas or concerns which should be addressed on a high priority basis.

a. The need for effective, well-organized programs of continuing education for allied health professionals has become increasingly apparent to assure continued competency of health personnel. It is especially necessary because of the accelerating pace of technological developments within the allied health professions and services. Thus, a real need exists to identify sources of continuing education and to develop comprehensive, periodic listings of such sources for distribution throughout the state. Further, where gaps or duplications exist, efforts should be made to bring out the desired additions or deletions.

b. For some time, educators and administrators have argued that health career training should be based on "core" experiences with frequent opportunity for a choice of specialty area. The organization of technical training by clusters of related occupations which prepared dual-specialists or even tri-specialists would avoid overly narrow and restricted training. Yet, despite the long-time existence of this idea, the obvious advantages to both students and educational institutions, and its actual partial implementation in some areas, relatively little is being done in this regard in Connecticut. Thus, the need exists to examine the various definitions of the core concept, to identify and evaluate existing attempts in Connecticut and elsewhere, and to recommend both the area most susceptible to this approach and guidelines to aid those institutions which might wish to develop the core program approach.

c. The ability to project either the supply of, or demand for, a number of emerging or materially changing occupations and professions is sharply limited by the absence of data on their function, roles, or acceptance. Therefore, educational planning in these areas must await the development of position papers assessing the potential impact of various financial, organizational, and regulatory trends on these fields and the implications for educational program content.

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d. Finally, it should be emphasized that the increasing trend towards the use of both educational institutions and clinical facilities in the conduct of health education and training programs creates the need to do two things immediately. First, develop a statewide data bank which maintains on a current basis an inventory of the number of clinical training opportunities available in specific facilities. Second, examine the cost implications for the clinical sites of providing such clinical training opportunities and recommend, if appropriate, state or collegiate reimbursement of such costs.

2. Because the magnitude of the job is so great and because many of the problems involved must be related to local concerns, it is recommended that there be established also Regional Health Manpower Committees composed of representatives of the same groups as in the Statewide Committee. These regional bodies might be established along the geographic lines which make up the Commission's present regional planning bodies. Alternatively, the regions might be established to coexist with the Comprehensive Health Planning Areas in the state. In any case, the purposes for which these Regional Health Manpower Committees would be founded would include:

   a. To develop area health care manpower resources to meet community health service needs.

   b. To assist health manpower education in becoming more responsive to the changing demands upon the health care delivery system.

   c. To integrate appropriate clinical experience with basic and continuing education for health manpower.

   d. To improve the cost-effectiveness of health manpower education by discouraging ineffective programs, avoiding duplicative efforts and increasing the efficiency of training programs.

   e. To recruit and train local citizens in health careers with particular emphasis on the minority and disadvantaged populations.

   f. To support health education activities and programs for the general public.

   g. To encourage consumer participation in the development and evaluation of health education and health delivery programs so that both will respond sensitively to human needs.

   h. To identify and develop mechanisms for the implementation of continuing education and inservice training programs as an integrated continuum of basic education for health manpower.

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i. To encourage and support an attractive environment which will attract and retain health manpower in urban and rural communities which are currently underserved.

3. Explicit in the above recommendations is the need for certain supportative activities if the Committees are to perform the indicated functions. Not the least of these is the need for the development of an ongoing health information system. The information system recommended here is not the same as the management information system currently being developed by the Commission although the two might be combined in actual operation. The health information system would be concerned primarily with maintaining a comparable and comprehensive data base on such things as student enrollment, characteristics of educational programs, supplies of personnel, and other information necessary to project or assess current and future supplies and requirements. In addition, such a system, where fully implemented, should have the ability to provide data on job opportunities.

The recommended information system/job bank is vital to informed educational planning and coordination of educational employment opportunities. Perhaps even more important, funds can be identified to get it started. In the course of this study, over $800,000 was identified in various licensure and certification fees which could be specifically earmarked for the collection and reporting of supply data. Moreover, the National Center for Health Statistics is developing a cooperative health statistics system. This system would comprise a national network of state, local and regional (multi-state) health statistics centers with a strong, continuing and flexible capacity to develop and make available a wide range of health and vital data to meet basic needs on all levels. Uniformity of methods would be coordinated by the National Center for Health Statistics. During stage 1 participating states will be responsible for compiling and maintaining, from the licensure data currently being collected, an inventory providing certain essential basic information-- numbers, distributions and age data for the majority of licensed health manpower personnel.

It is recommended that the Commission immediately appoint a Committee to recommend the contents and organization of a Health Information System; to investigate the potential use of presently allocated state funds for support of such a system; and to request consideration by the National Center for Health Statistics of HEW that Connecticut be designated a participating state in the development of that system, with special encouragement toward a regional center.

4. A second supportive activity is required if the Committees are to effectively function in the conduct of special studies. Many of the specific studies needed have been indicated. However, time and circumstances will suggest other, perhaps more vital study needs. Therefore, it is recommended that, either as a subcommittee of the recommended Health Manpower Committee or as a

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separate entity, there be established a Research Advisory Committee. This Committee would:

a. Identify and promote necessary health-related research needs, particularly those related to the identification or evaluation of changes in the health care delivery system and the impact of those changes on health manpower;

b. Encourage inter-institutional and interdisciplinary research; and

c. Recommend to the Health Manpower Committee and to the Commission the distribution of state funds available to support such research activities.

5. Included in the recommended functions for the Research Advisory Committee was the recognition of the need for funds to support and promote needed educational research and/or interdisciplinary and inter-institutional studies. To provide such funds, a policy course suggested in the 1971 Arthur D. Little report to the Commission for Higher Education recommended that "a fund be appropriated annually in an amount equal to 1% of the operating budgets of the (Commission's constituent sections) in order to permit the Commission for Higher Education to mount appropriate research and evaluation studies," including those specific to the health manpower field. It should be noted that recommendations within the Commission's current Master Plan include research support also.

6. Finally, it is recommended that the Commission immediately begin discussions with other groups within Connecticut and in the New England area, such as the New England Board of Higher Education, for the express purpose of improving the compatibility of the data base collected in each state. The ultimate goal of such discussions should be the establishment of an Interstate Health Manpower Council composed of representatives from each of the Northeastern states and the academic and clinical components of health manpower education in these states.

APPENDIX

1. COORDINATION SERIES

2. OCCUPATIONAL GROUPINGS

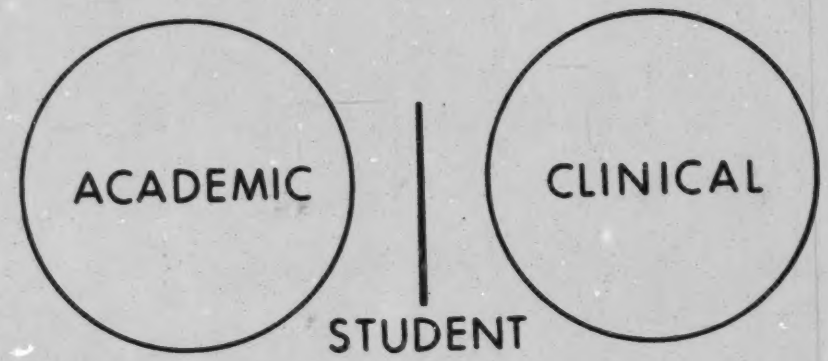
3. GRAPHS OF PROJECTED SUPPLY AND DEMAND FOR SELECTED OCCUPATIONS

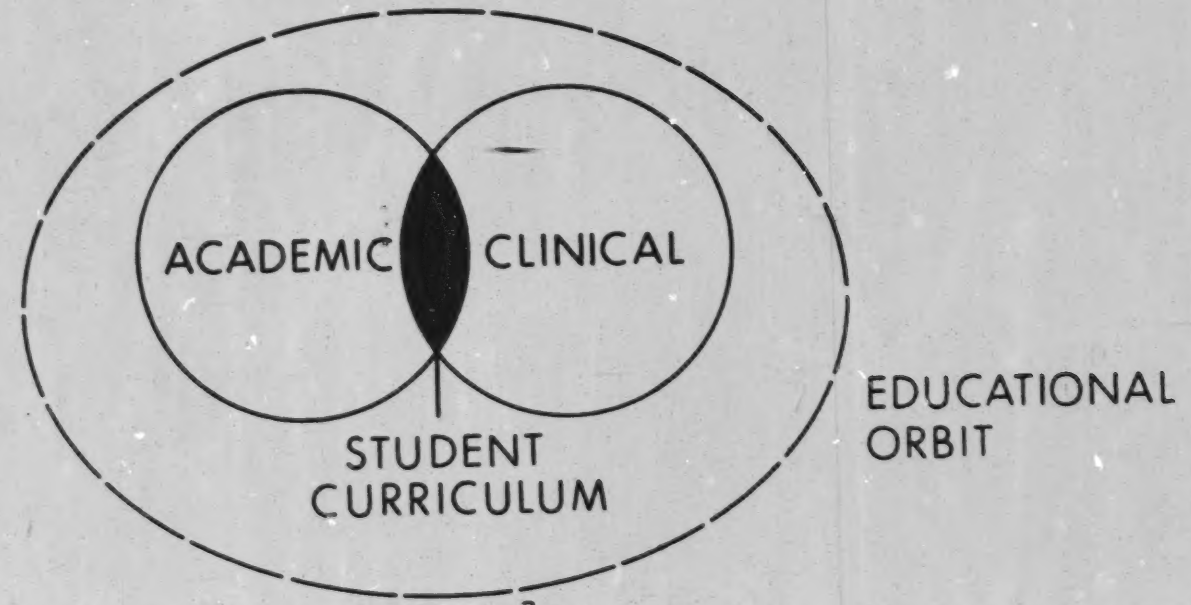
4. CONNECTICUT COMMISSION FOR HIGHER EDUCATION PLANNING REGIONS

5. RATE OF RESPONSE FOR SURVEY QUESTIONNAIRE.

COORDINATION SERIES

HEALTH PROGRAM = ACADEMIC + CLINICAL





COORDINATION SERIES

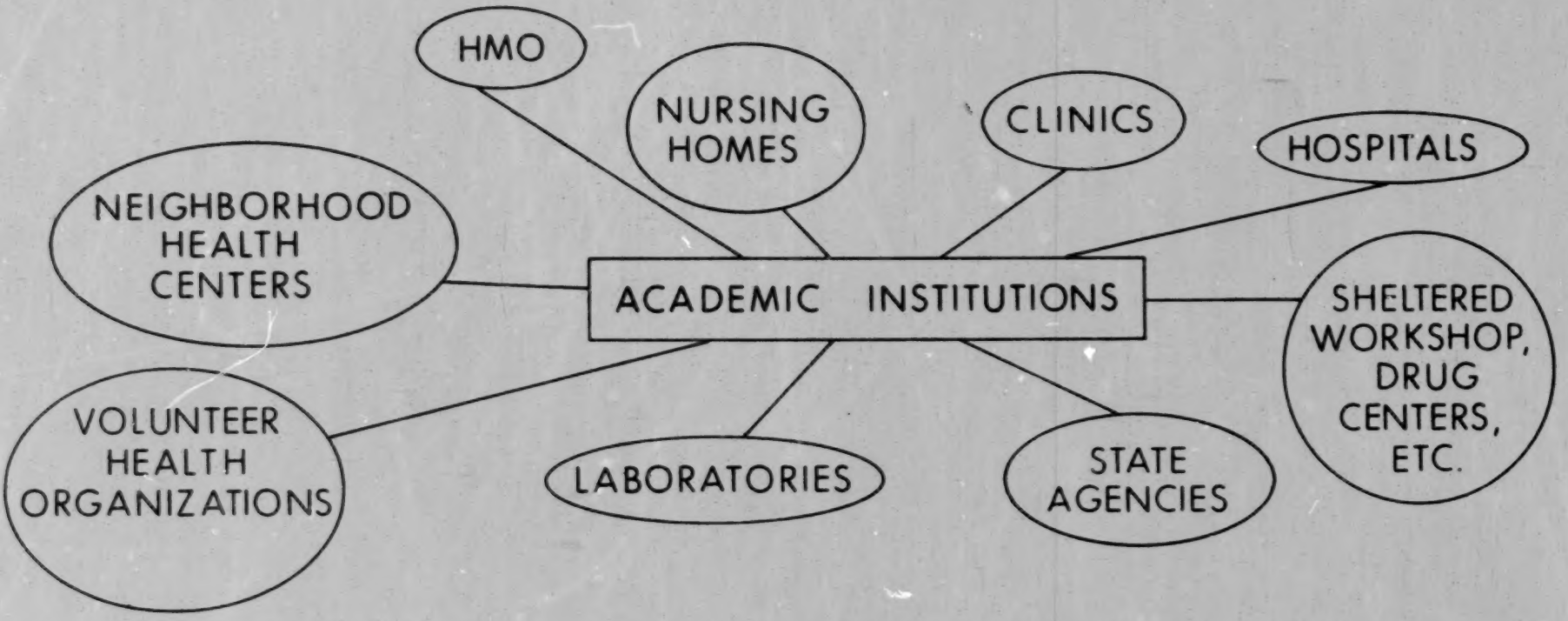
EDUCATION INTER-SYSTEM

- HIGH SCHOOLS
- VOCATIONAL-TECHNICAL
- STATE TECHNICAL COLLEGES
- 2-YR. COLLEGES — PUBLIC AND PRIVATE
- 4-YR. COLLEGES — PUBLIC AND PRIVATE
- UNIVERSITIES — PUBLIC AND PRIVATE
- PROPRIETARY SCHOOLS

HOSPITALS?
STATE AGENCIES?

COORDINATION SERIES

CLINICAL POOL



COORDINATION SERIES

S.A. 73-105 – HEALTH MANPOWER STUDY

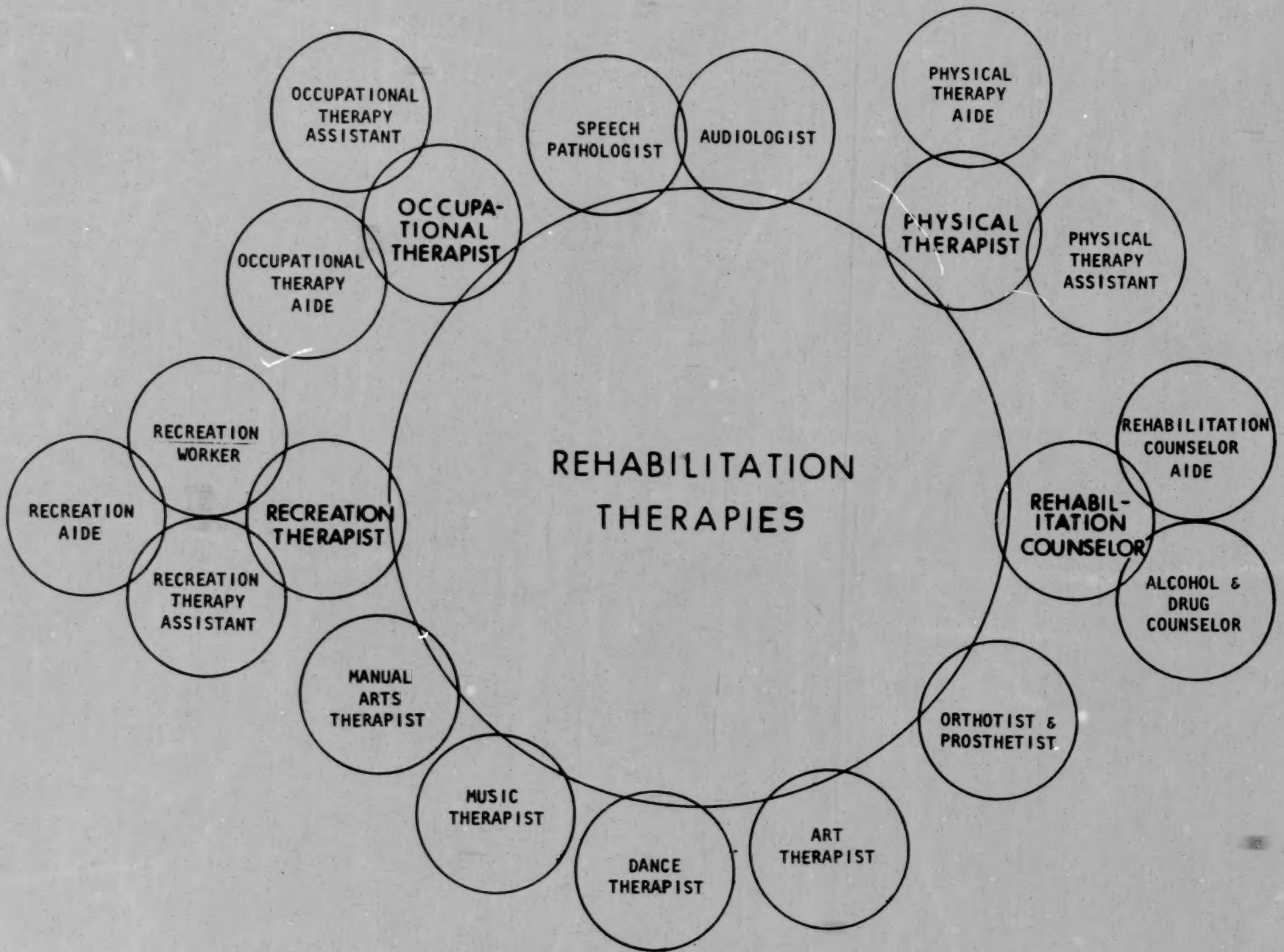
NUMBERS
KINDS
LEVELS
PLACES

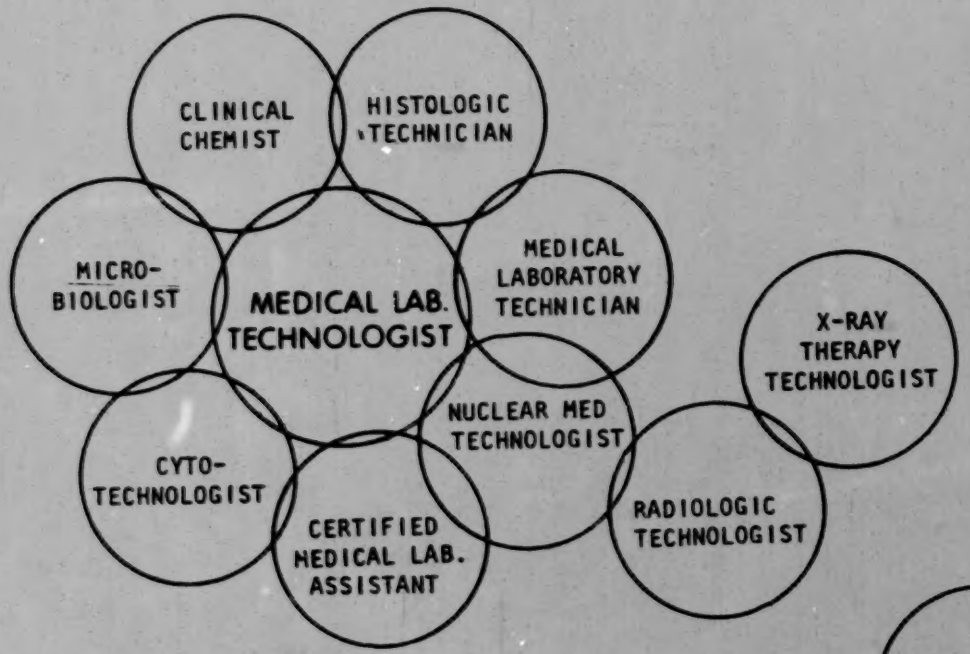
FOR

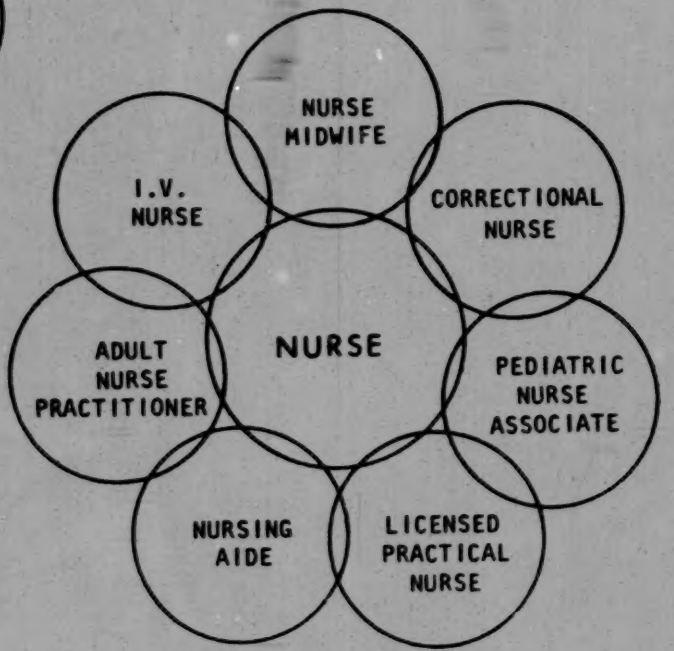
- PERSONS (STUDENTS)
- PROGRAMS (EDUCATION)
- PLACEMENT (EMPLOYMENT)

IN *CONNECTICUT*
IN *NORTHEAST*

NOW AND IN THE *FUTURE*


REHABILITATION THERAPIES
OCCUPATIONAL THERAPY ASSISTANT
OCCUPATIONAL THERAPIST
OCCUPATIONAL THERAPY AIDE
SPEECH PATHOLOGIST
AUDIOLOGIST
PHYSICAL THERAPY AIDE
PHYSICAL THERAPIST
PHYSICAL THERAPY ASSISTANT
REHABILITATION COUNSELOR AIDE
REHABIL-ITATION COUNSELOR
ALCOHOL & DRUG COUNSELOR
ORTHOTIST & PROSTHETIST
ART THERAPIST
DANCE THERAPIST
MUSIC THERAPIST
MANUAL ARTS THERAPIST
RECREATION WORKER
RECREATION AIDE
RECREATION THERAPIST
RECREATION THERAPY ASSISTANT


CLINICAL CHEMIST
HISTOLOGIC TECHNICIAN
MICRO-BIOLOGIST
MEDICAL LAB. TECHNOLOGIST
MEDICAL LABORATORY TECHNICIAN
X-RAY THERAPY TECHNOLOGIST
NUCLEAR MED TECHNOLOGIST
CYTO-TECHNOLOGIST
CERTIFIED MEDICAL LAB. ASSISTANT
RADIOLOGIC TECHNOLOGIST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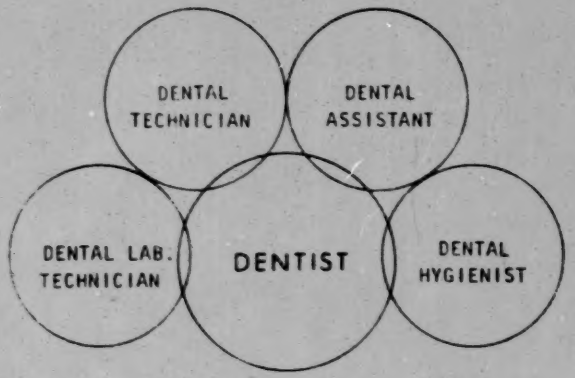
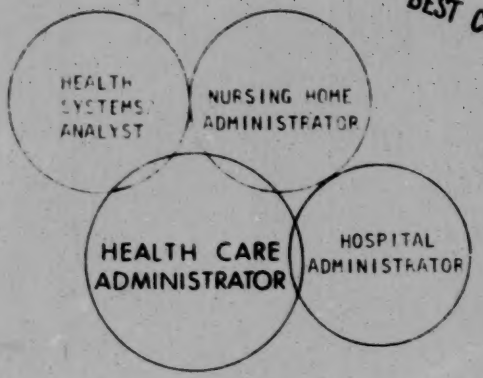
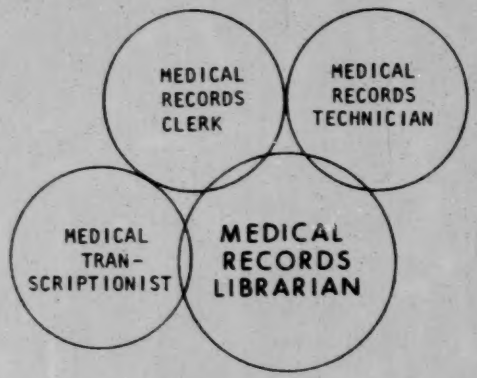
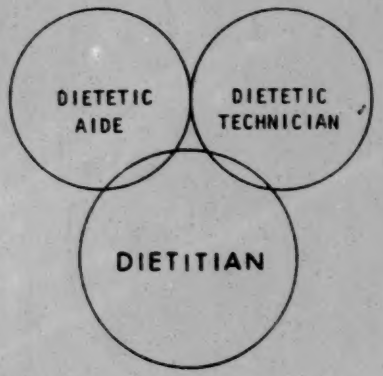
I.V. NURSE
CORRECTIONAL NURSE
ADULT NURSE PRACTITIONER
NURSE
PEDIATRIC NURSE ASSOCIATE
NURSING AIDE
LICENSED PRACTICAL NURSE

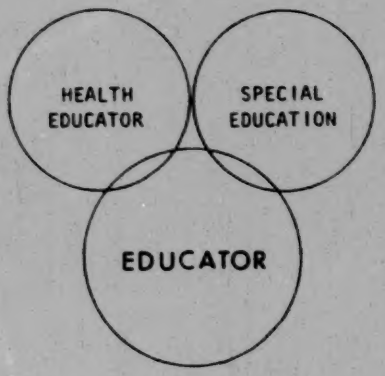
BEST COPY AVAILABLE

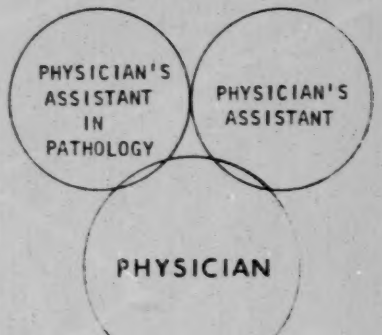


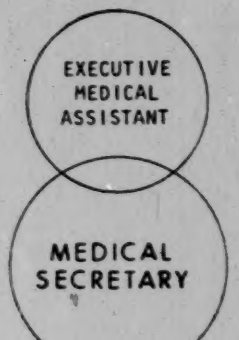


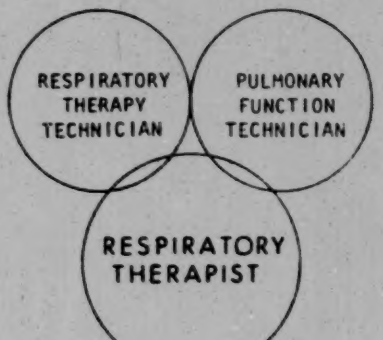


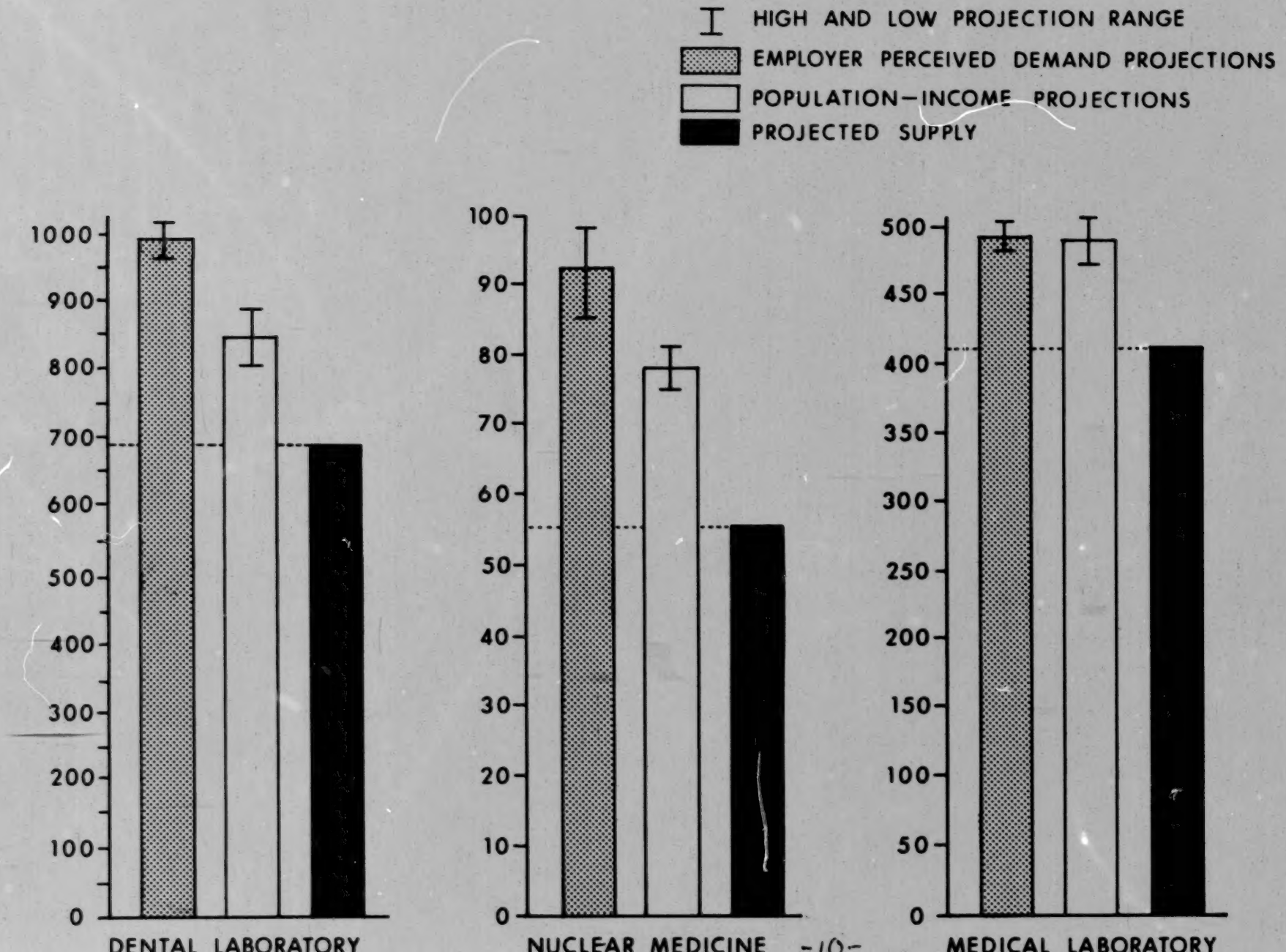


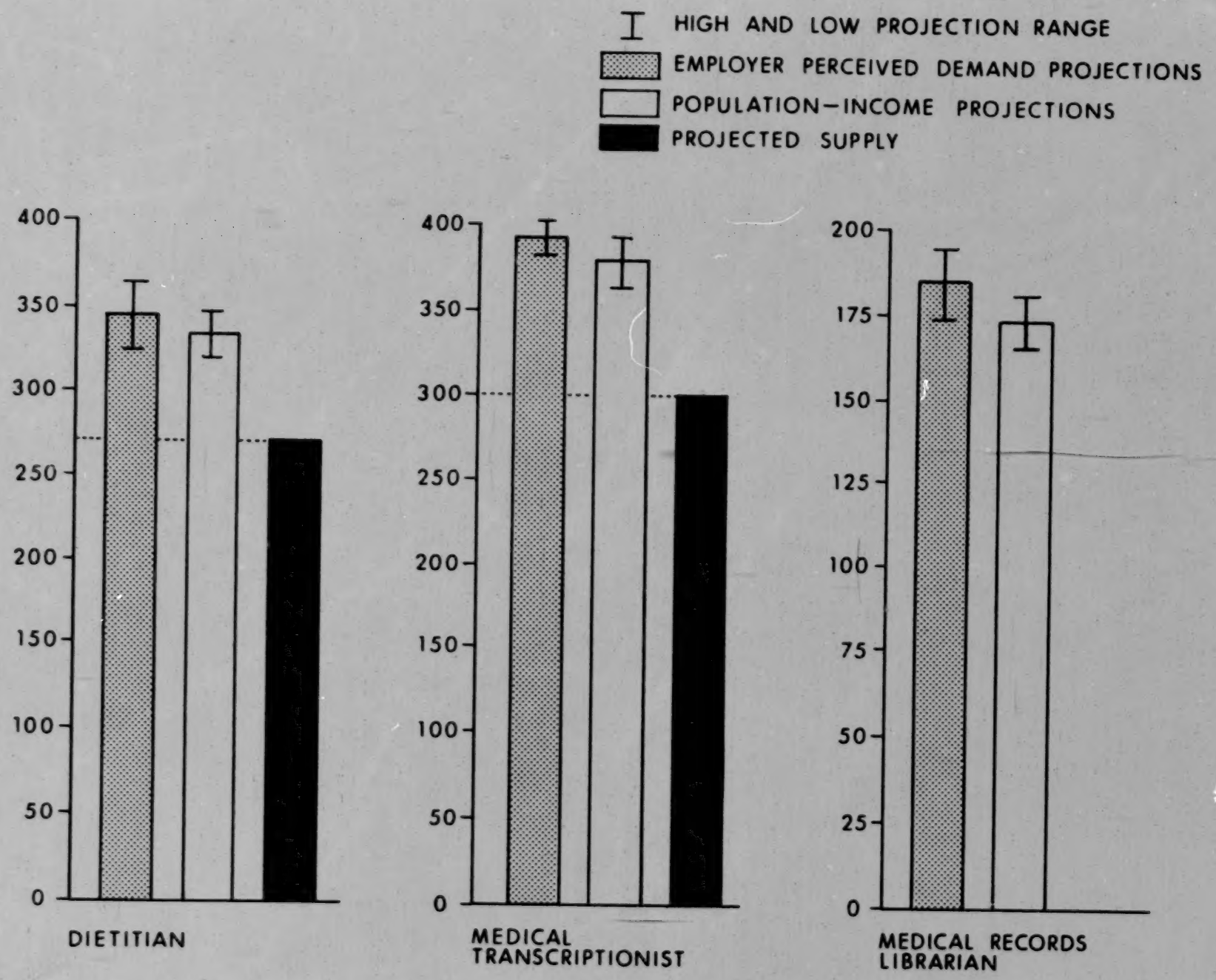









HIGH AND LOW PROJECTION RANGE
EMPLOYER PERCEIVED DEMAND PROJECTIONS
POPULATION–INCOME PROJECTIONS
PROJECTED SUPPLY
1000
900
800
700
600
500
400
300
200
100
0
DENTAL LABORATORY
100
90
80
70
60
50
40
30
20
10
0
NUCLEAR MEDICINE
500
450
400
350
300
250
200
150
100
50
0
MEDICAL LABORATORY


HIGH AND LOW PROJECTION RANGE
EMPLOYER PERCEIVED DEMAND PROJECTIONS
POPULATION–INCOME PROJECTIONS
PROJECTED SUPPLY
400
350
300
250
200
150
100
50
0
DIETITIAN
400
350
300
250
200
150
100
50
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MEDICAL TRANSCRIPTIONIST
200
175
150
125
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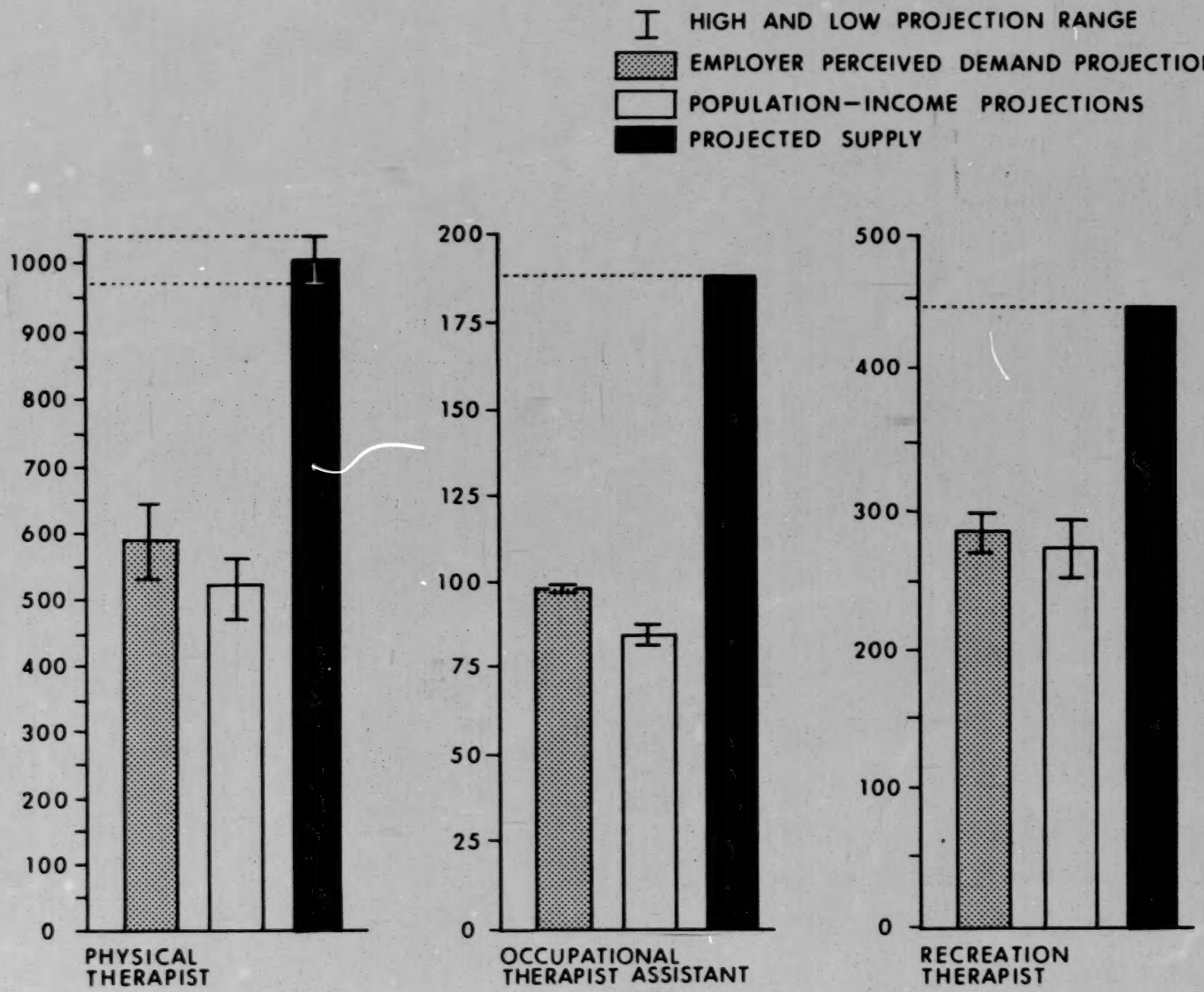
75
50
25
0
MEDICAL RECORDS LIBRARIAN


HIGH AND LOW PROJECTION RANGE
EMPLOYER PERCEIVED DEMAND PROJECTIONS
POPULATION–INCOME PROJECTIONS
PROJECTED SUPPLY
1000
900
800
700
600
500
400
300
200
100
0
PHYSICAL THERAPIST
200
175
150
125
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OCCUPATIONAL THERAPIST ASSISTANT
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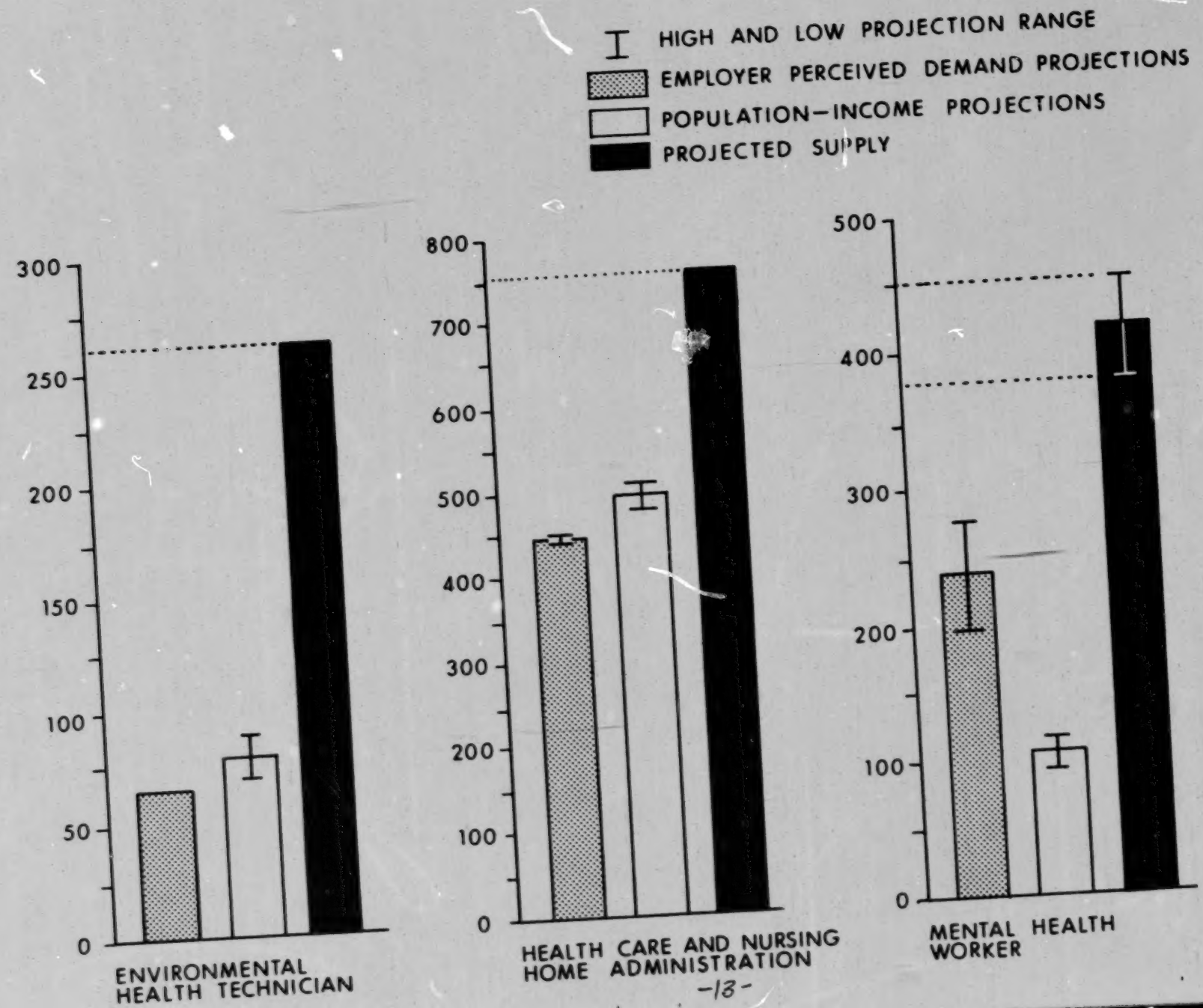
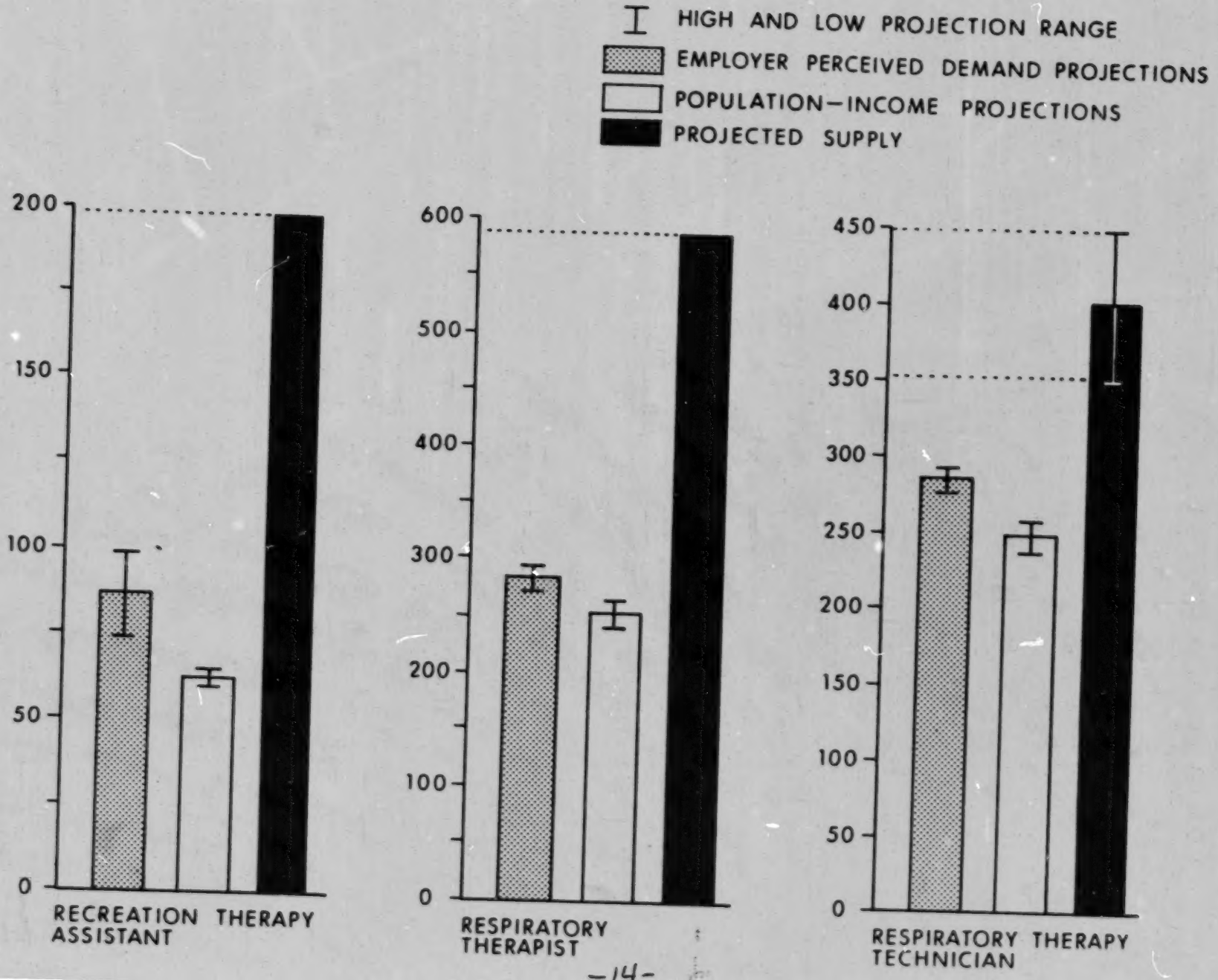
400
300
200
100
0
RECREATION THERAPIST


HIGH AND LOW PROJECTION RANGE
EMPLOYER PERCEIVED DEMAND PROJECTIONS
POPULATION–INCOME PROJECTIONS
PROJECTED SUPPLY
300
250
200
150
100
50
0
ENVIRONMENTAL HEALTH TECHNICIAN
800
700
600
500
400
300
200
100
0
HEALTH CARE AND NURSING HOME ADMINISTRATION
500
400
300
200
100
0
MENTAL HEALTH WORKER


HIGH AND LOW PROJECTION RANGE
EMPLOYER PERCEIVED DEMAND PROJECTIONS
POPULATION–INCOME PROJECTIONS
PROJECTED SUPPLY
200
150
100
50
0
RECREATION THERAPY ASSISTANT
600
500
400
300
200
100
0
RESPIRATORY THERAPIST
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400
350
300
250
200
150
100
50
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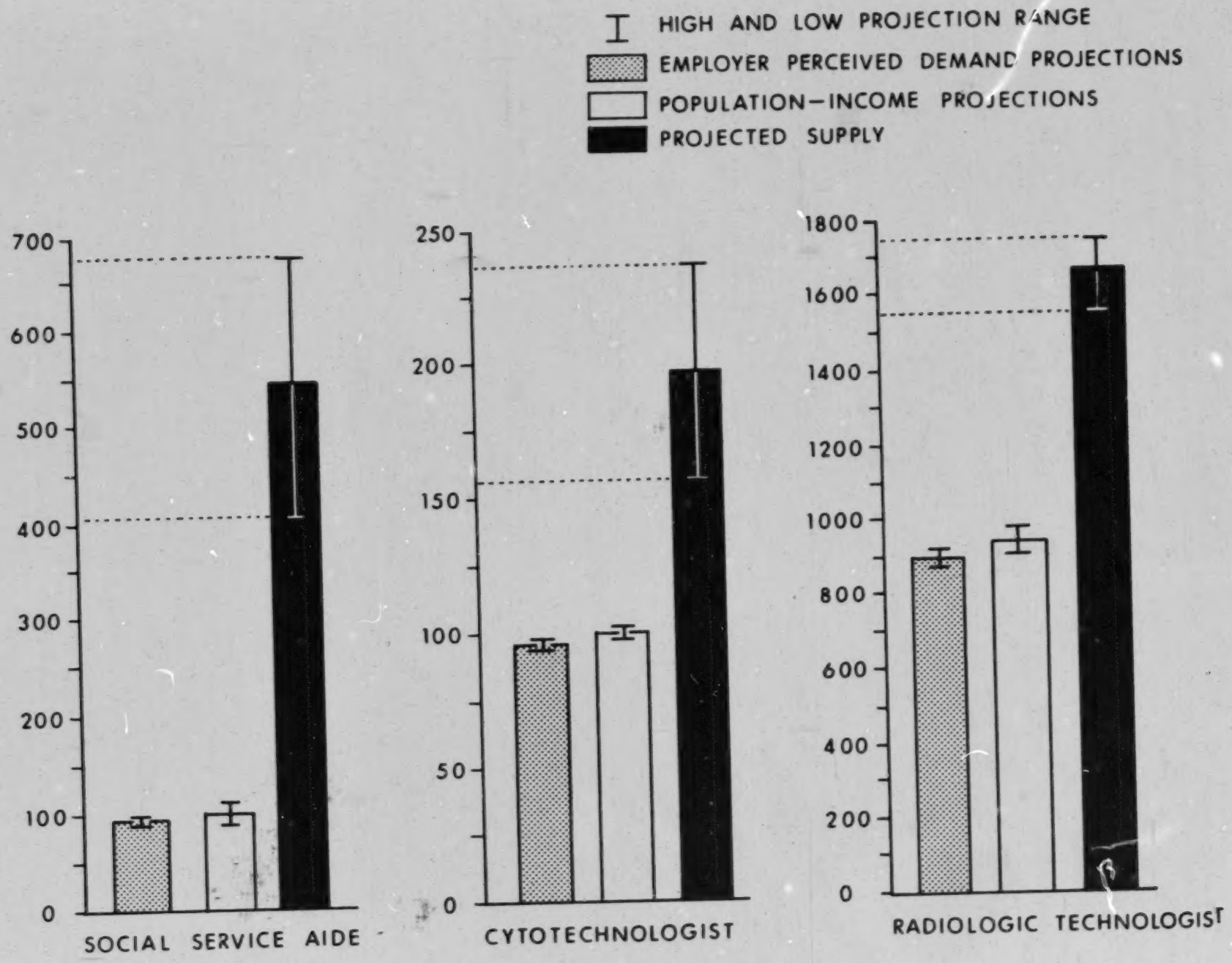
RESPIRATORY THERAPY TECHNICIAN


HIGH AND LOW PROJECTION RANGE
EMPLOYER PERCEIVED DEMAND PROJECTIONS
POPULATION–INCOME PROJECTIONS
PROJECTED SUPPLY
700
600
500
400
300
200
100
0
SOCIAL SERVICE AIDE
250
200
150
100
50
0
CYTOTECHNOLOGIST
1800
1600
1400
1200
1000
800
600
400
200
0
RADIOLOGIC TECHNOLOGIST

CONNECTICUT EDUCATION/EMPLOYMENT STUDY FOR HEALTH MANPOWER

CONNECTICUT COMMISSION FOR HIGHER EDUCATION PLANNING REGIONS

List of Figures:

Number

1. C.H.E. Planning Regions/Map Key - Relationship of Educational Institutions To Selected Health Care Facilities

2. C.H.E. Planning Region Area - A

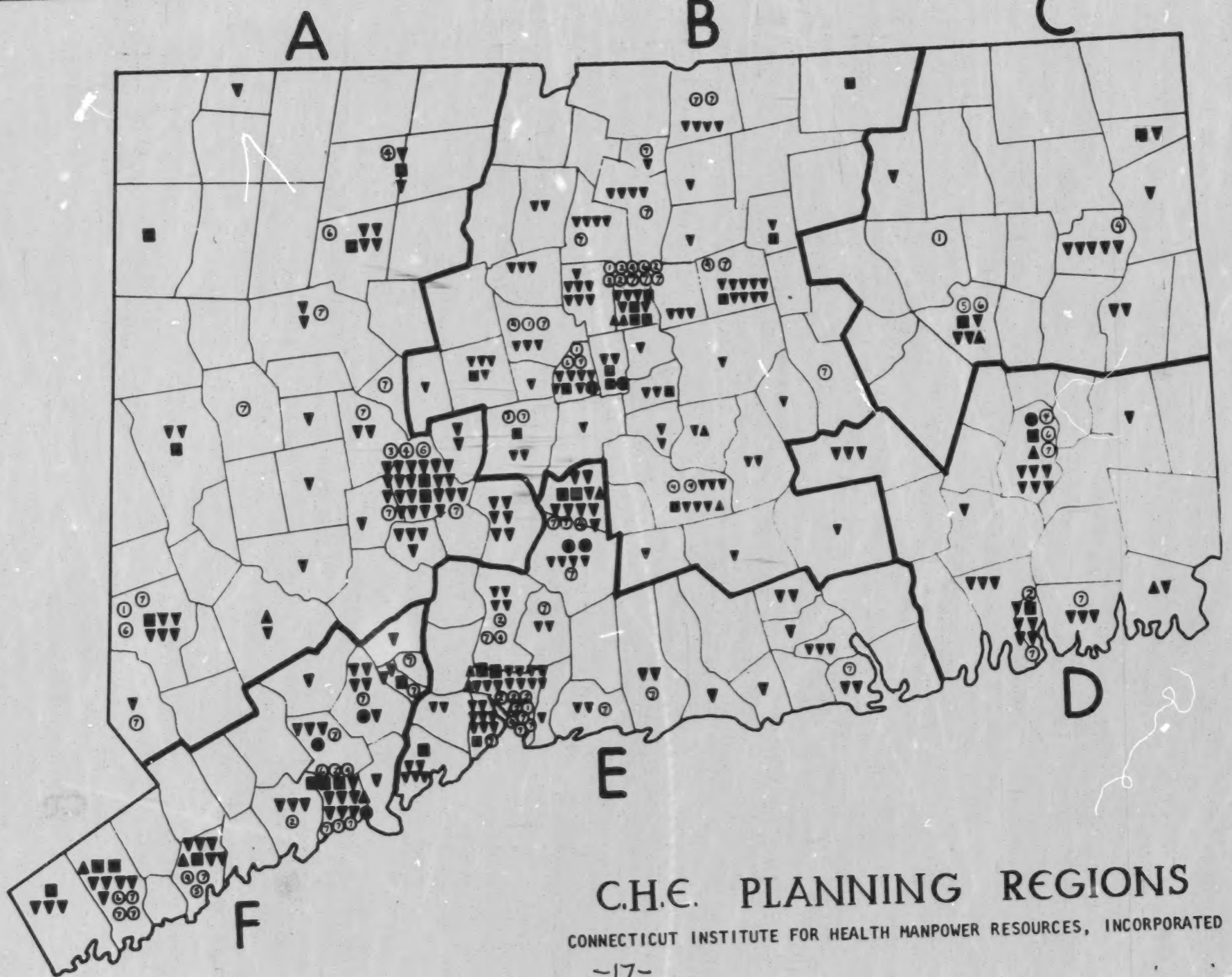
3. C.H.E. Planning Region Area - B

4. C.H.E. Planning Region Area - C

5. C.H.E. Planning Region Area - D

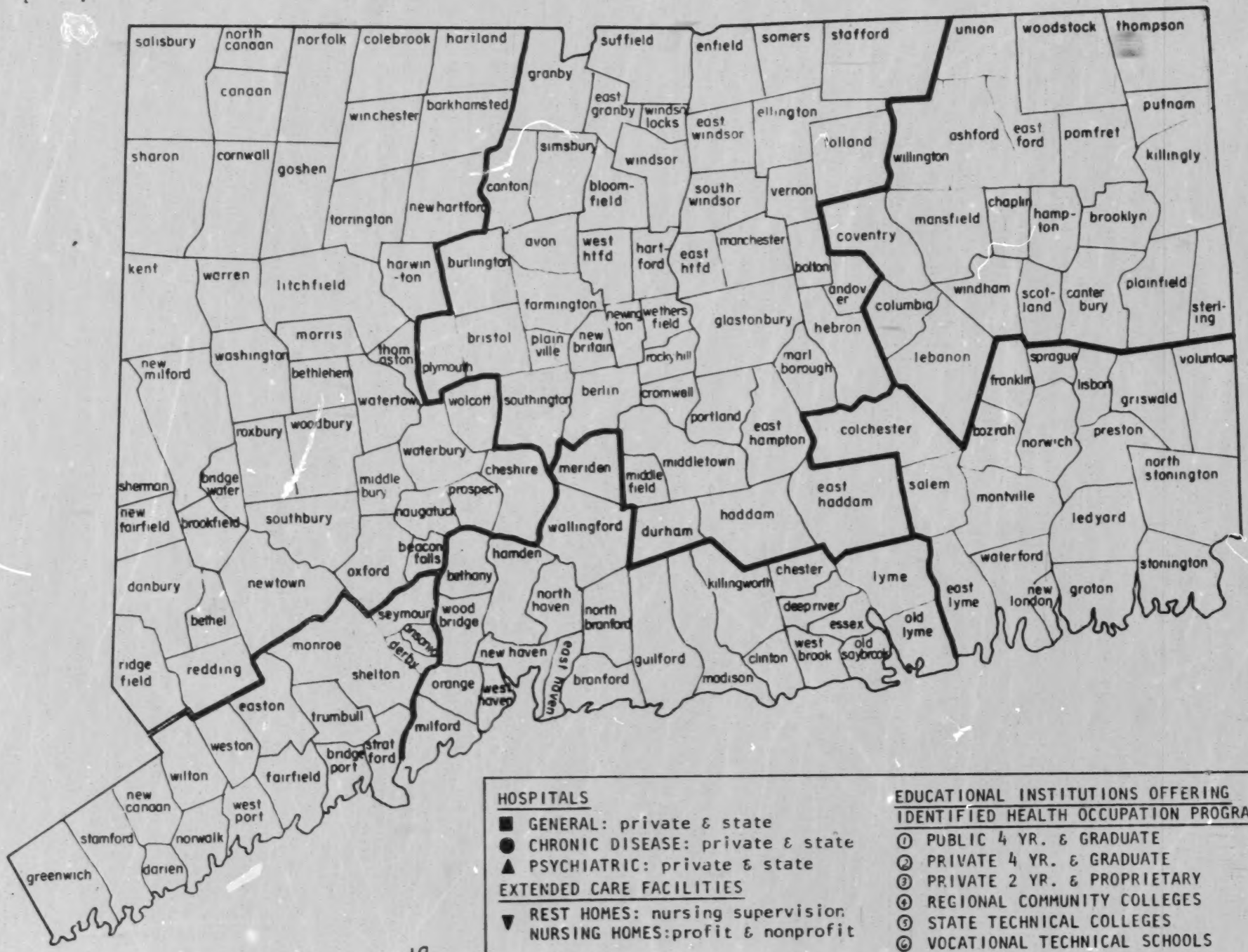
6. C.H.E. Planning Region Area - E

7. C.H.E. Planning Region Area - F



C.H.E. PLANNING REGIONS

CONNECTICUT INSTITUTE FOR HEALTH MANPOWER RESOURCES, INCORPORATED



HOSPITALS

- ■ GENERAL: private & state
- ● CHRONIC DISEASE: private & state
- ▲ PSYCHIATRIC: private & state

EXTENDED CARE FACILITIES

- ▼ REST HOMES: nursing supervision
  NURSING HOMES: profit & nonprofit

EDUCATIONAL INSTITUTIONS OFFERING IDENTIFIED HEALTH OCCUPATION PROGRAMS

1. PUBLIC 4 YR. & GRADUATE
2. PRIVATE 4 YR. & GRADUATE
3. PRIVATE 2 YR. & PROPRIETARY
4. REGIONAL COMMUNITY COLLEGES
5. STATE TECHNICAL COLLEGES
6. VOCATIONAL TECHNICAL SCHOOLS
7. HIGH SCHOOL HEALTH PROGRAMS

CONNECTICUT INSTITUTE FOR HEALTH MANPOWER RESOURCES, INCORPORATED

PLANNING REGION A

HOSPITALS

- ■ GENERAL: private & state
- ● CHRONIC DISEASE: private & state
- ▲ PSYCHIATRIC: private & state

EXTENDED CARE FACILITIES

- ▼ REST HOMES with nursing supervision
  NURSING HOMES: profit & nonprofit

EDUCATIONAL INSTITUTIONS OFFERING IDENTIFIED HEALTH OCCUPATION PROGRAMS

1. PUBLIC 4 YR & GRADUATE
2. PRIVATE 4 YR & GRADUATE
3. PRIVATE 2 YR & PROPRIETARY
4. REGIONAL COMMUNITY COLLEGES
5. STATE TECHNICAL COLLEGES
6. VOCATIONAL TECHNICAL SCHOOLS
7. HIGH SCHOOL HEALTH PROGRAMS

HOSPITALS:

- ■ SHARON HOSPITAL, Sharon (94 beds)
- ■ WINSTED MEMORIAL HOSPITAL, Winsted (85)
- ■ CHARLOTTE HUNGERFORD HOSPITAL, Torrington (191)
- ■ DANBURY HOSPITAL, Danbury (300)
- ▲ FAIRFIELD HILLS HOSPITAL, Newtown (1284)
- ■ WATERBURY HOSPITAL, Waterbury (402)
- ■ ST. MARY'S HOSPITAL, Waterbury (420)
- ■ NEW MILFORD HOSPITAL, New Milford (81)

EXTENDED CARE FACILITIES
REST HOMES WITH NURSING SUPERVISION

- ▼ BETHLEHEM REST HOME, Bethlehem
- MARBRIDGE REST HOME, Cheshire
- KEATING HOME, Danbury
- MAPLE YOKE REST HOME, Danbury
- FERNWOOD REST HOME, Litchfield
- NAUGATUCK REST HOME, Naugatuck
- PINE CREST REST HOME, Naugatuck
- SALEM REST HOME, Naugatuck
- LONG HILL REST HOME, Shelton
- CENTRAL REST HOME CORP., Waterbury
- FLEETBELT MANOR, Waterbury
- HILLSIDE MANOR RETIREMENT HOME, Waterbury
- LAUREL REST HOME, INC., Waterbury
- MONTOE PARK REST HOME, Waterbury
- OAKCLIFF REST HOME, Waterbury
- PINE MANOR REST HOME, Waterbury
- WILLOW REST HOME, Waterbury
- HIGHLAND ACRES REST HOME, Winsted
- WOLCOTT PRIVATE REST HOME, Wolcott
- HILLTOP REST HOME, INC., Wolcott

NURSING HOMES (PROFIT AND NON-PROFIT)

- ▼ CHESHIRE REHAB. AND CONV. CENTER, Cheshire
- ELIM PARK BAPTIST HOME, Cheshire
- NEW LAKEVIEW CONV. AND NURSING HOME, Cheshire
- DANBURY PAVILION, Danbury

NURSING HOMES (profit & non-profit, cont'd.)

- ▼ FILOSA CONVALESCENT HOME, INC., Danbury
- GLEN HILL CONVALESCENT CENTER, Danbury
- ROSE HAVEN, INC., Litchfield
- MIDDLEBURY CONVALESCENT HOME, Middlebury
- JONES NURSING HOME, Naugatuck
- NEW MILFORD NURSING HOME, New Milford
- TWIN PINES CONVALESCENT HOME, New Milford
- BUCKINGHAM GARDENS CONVALESCENT HOME, Newtown
- GEER MEMORIAL NURSING HOME, North Canaan
- EASTVIEW MANOR, Prospect
- PROSPECT RESTORATIVE HEALTH CENTER, Prospect
- ALTNACRAIG CONVALESCENT HOME, Ridgefield
- LUTHERAN HOME FOR AGED, Southbury
- ADAMS HOUSE, Torrington
- DRUMMOND CONVALESCENT HOME, Torrington
- TORRINGTON EXTEND-A-CARE CENTER, Torrington
- WOLCOTT HALL, Torrington
- CEDAR LANE NURSING HOME, Waterbury
- CLIFF CONVALESCENT HOME, Waterbury
- EAST END CONVALESCENT HOME, Waterbury
- GROVE MANOR, INC., Waterbury
- HOPE HALL CONVALESCENT HOME, Waterbury
- MEDICARE PAVILION, Waterbury
- NEW HORIZONS CONVALESCENT HOME, Waterbury
- OAKCLIFF CONVALESCENT HOME, Waterbury
- PARK MANOR, Waterbury
- ROSE MANOR, Waterbury
- SOUTHMAYD HOME, INC., Waterbury
- WATERBURY CONVALESCENT CENTER, Waterbury
- WHITEWOOD MANOR NURSING HOME, Waterbury
- WATERBURY EXTENDED CARE FACILITY, Watertown
- WATERTOWN CONVALARIUM, Watertown
- HIGHLAND ACRES EXTEND-A-CARE CENTRE, Winsted
- WOODBURY CONVALESCENT HOME, Woodbury

EDUCATIONAL INSTITUTIONS

- ⓘ WESTERN CONN. STATE COLLEGE, Danbury
- ⓗ HENRY ABBOTT VOC-TECH, Danbury
- ⓞ OLIVER WOLCOTT VOC-TECH., Torrington
- ⓜ MATTATUCK COMMUNITY COLLEGE, Waterbury
- ⓟ POST JR. COLLEGE - Waterbury
- ⓦ W.F. KAYNOR REGIONAL VOC-TECH., Waterbury
- ⓝ NORTHWESTERN CONN. COMMUNITY COLLEGE, Winsted

HIGH SCHOOL HEALTH PROGRAMS

- ⑦ DANBURY HIGH, Danbury
- ⑦ WAMOGO REGIONAL HIGH SCHOOL, Litchfield
- ⑦ RIDGEFIELD HIGH, Ridgefield
- ⑦ THOMASTON HIGH, Thomaston
- ⑦ SHEPAUG VALLEY HIGH SCHOOL, Washington
- ⑦ CROSBY HIGH, Waterbury
- ⑦ WILBY HIGH, Waterbury
- ⑦ WATERTOWN HIGH, Watertown

A

CONNECTICUT INSTITUTE FOR HEALTH MANPOWER RESOURCES, INCORPORATED

PLANNING REGION

B

HOSPITALS

- ■ GENERAL: private & state
- ● CHRONIC DISEASE: private & state
- ▲ PSYCHIATRIC: private & state

EXTENDED CARE FACILITIES

- ▼ REST HOMES with nursing supervision
  NURSING HOMES: profit & nonprofit

EDUCATIONAL INSTITUTIONS OFFERING IDENTIFIED HEALTH OCCUPATION PROGRAMS

- ① PUBLIC 4 YR & GRADUATE
- ② PRIVATE 4 YR & GRADUATE
- ③ PRIVATE 2 YR & PROPRIETARY
- ④ REGIONAL COMMUNITY COLLEGES
- ⑤ STATE TECHNICAL COLLEGES
- © VOCATIONAL TECHNICAL SCHOOLS
- ⑦ HIGH SCHOOL HEALTH PROGRAMS

HOSPITALS:

■ BRISTOL HOSPITAL, Bristol (250 beds)
▲ BLUE HILLS HOSPITAL, Hartford (80)
■ HARTFORD HOSPITAL, Hartford (964)
▲ INSTITUTE OF LIVING, Hartford (415)
■ MT. SINAI HOSPITAL, Hartford (333)
■ ST. FRANCIS HOSPITAL, Hartford (613)
■ UCONN-McCOOK HOSPITAL, Hartford (129)
■ MANCHESTER MEMORIAL, Manchester (299)
▲ CONNECTICUT VALLEY HOSPITAL, Middletown
■ MIDDLESEX MEMORIAL HOSPITAL, Middletown (365)
■ NEW BRITAIN GENERAL, New Britain (400)
● NEW BRITAIN MEMORIAL, New Britain (200)
● CEDARCREST HOSPITAL, Newington (202)
■ NEWINGTON CHILDRENS, Newington (212)
■ V. A. HOSPITAL, Newington (190)
▲ ELMCREST PSYCHIATRIC INSTITUTE, Portland
■ VETERANS HOME AND HOSPITAL, Rocky Hill (484)
■ BRADLEY MEMORIAL, Southington (98)
■ JOHNSON MEMORIAL, Stafford (75)
■ ROCKVILLE HOSPITAL, Vernon (105)

EXTENDED CARE FACILITIES:

REST HOMES WITH NURSING SUPERVISION

▼ CHARTER OAK REST HOME, Bloomfield
COUNTRYSIDE MANOR, Bristol
RIDGEVIEW REST HOME, Cromwell
TWIN MAPLES HOME, Durham
D'AMORE REST HAVEN, East Windsor
ST. JOSEPH'S RESIDENCE, Enfield
HADDAM MANOR, INC., Haddam
HEBREW HOME FOR AGED, Hartford
NOBLE HOME, Hartford
VICTORIA REST HOME, Hartford
GREEN LODGE HOME, Manchester
HOLIDAY HOUSE, Manchester
MANCHESTER MANOR, Manchester
MEADOWS REST HOME, Manchester
LORD MARLBOROUGH MANOR, Marlborough
MIDDLESEX REST HOME, Middletown
BRITTANY FARMS REST HOME, New Britain
BEL-AIR MANOR, Newington
SILLS HOME, Newington
ST. ANTHONY HOME, Vernon
ST. MARY'S HOME, West Hartford
SAUNDERS REST HOME, West Hartford
WINDSOR HALL, Windsor

B

NURSING HOMES (PROFIT & NON-PROFIT)

▼ AVON CONV. HOME, Avon
BOLLESWOOD, Avon
BRIGHT VIEW CONV., Avon
LEDGECREST CONV. HOME, Berlin
BLOOMFIELD CONV. CENTER, Blmfld.
HIGH RIDGE CONV., Bloomfield
HILLDALE EXTEND-A-CARE CENTER, Blmfld.
FORESTVILLE CONV. CENTER, Bristol
NURSING CARE CENTER, Bristol
BRISTOL CONV. HOME, Bristol
CROMWELL CREST CONV., Cromwell
PILGRIM MANOR, Cromwell
DURHAM CONV. HOME, Durham
CHESTELM CONV. HOME, E. Haddam
COBALT LODGE, East Hampton
REST HAVEN, East Hampton
BURNSIDE CONV. HOME, E. Hartford
EAST HARTFORD CONV. HOME, E. Hartford
SILVER LANE PAVILION, East Hartford
ENFIELD NURSING HOME, Enfield
PARKWAY PAVILION, Enfield
ST. JOSEPH'S RESIDENCE, Enfield
FARMINGTON CONV. HOME, Farmington
GERI-CARE CONV. HOME, Farmington
HOME OF FARMINGTON, Farmington
SALMON BROOK CONV. HOME, Glastonbury
AVERY NURSING HOME, Hartford
BUCKLEY CONV. HOME, Hartford
THE GABLES, Hartford
GREENWOOD PAVILION CONV. HOME, Htfd.
HEBREW HOME FOR AGED, Hartford
CRESTFIELD CONV. HOME, Manchester
LAUREL MANOR, Manchester
MANCHESTER MANOR NURSING HOME, Mnchtr.
MEADOWS NURSING HOME, Manchester
LUTHERAN HOME INFIRMARY, Middletown
MEADOWBROOK CONV. HOME, Middletown
MIDDLESEX NURSING HOME, Middletown
QUEEN'S CONV. HOME, Middletown
SANIBEL INC., Middletown
CORBIN CONV. HOME, New Britain
ELM CONV. HOME, New Britain
JAMES ANDREW HOUSE, New Britain
LEXINGTON CONV. HOME, New Britain
WALNUT HILL CONV. HOME, New Britain
PLAINVILLE CONV. HOME, Plainville

NURSING HOMES (PROFIT & NON-PROFIT)

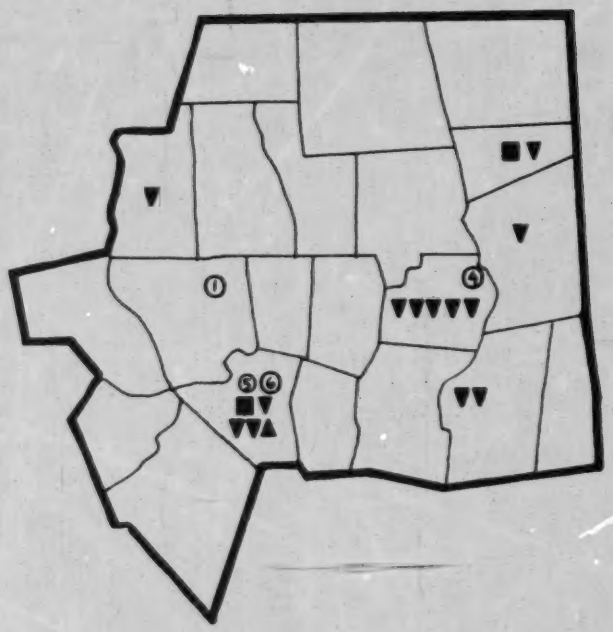
▼ COOKS WILLOW REST, Plymouth
PORTLAND CONV. HOME, Portland
ELM HILL CONV. HOME, Rocky Hill
WEST HILL CONVACENTER, Rocky Hill
HOLLY HILL CONV. HOME, Simsbury
McLEAN HOME, Simsbury
McCULLY CONV. HOME, Southington
RIDGEWOOD CONV. HOME, Southington
SOUTH WINDSOR CONV. HOME, S. Windsor
ROCKVILLE NURSING HOME, Vernon
HUGHES CONV. HOME, West Hartford
MERCY KNOLL, West Hartford
ST. MARY HOME, West Hartford
WETHERSFIELD MANOR, Wethersfield
KIMBERLY HALL NURSING HOME, Windsor
MOUNTAIN VIEW PAVILION, Windsor
WINDSOR HALL NURSING HOME, Windsor
BICKFORD CONV. HOME, Windsor Locks

EDUCATIONAL INSTITUTIONS

⑤ TUNXIS COMMUNITY COLLEGE, Farmington
⑦ U. OF CONN. HEALTH CENTER, Farmington
⑪ A.I. PRINCE REG. VOC-TECH., Hartford
⑭ GREATER HTFD. COMMUNITY COLL., Hartford
⑰ HARTFORD SECRETARIAL, Hartford
㉒ RENSSELAER POLYTECH. INST., Hartford
㉓ ST. JOSEPH COLLEGE, Hartford
㉗ U CONN. SCHOOL OF SOCIAL WORK, Htfd.
㉘ UNIVERSITY OF HARTFORD, Hartford
㉚ MANCHESTER COMMUNITY COLLEGE, Manchester
㉛ MIDDLESEX COMMUNITY COLL., Middletown
㉜ VINAL REGIONAL VOC.-TECH., Middletown
㉞ E.C. GOODWIN REG. VOC.-TECH., New Britain
㊲ CENTRAL CONN. STATE, New Britain
㊳ BRIARWOOD SCHOOL FOR WOMEN, Southington

HIGH SCHOOL HEALTH PROGRAMS

㊴ BLOOMFIELD HIGH, Bloomfield
ENFIELD HIGH, Enfield
FERMI HIGH, Enfield
FARMINGTON HIGH, Farmington
BULKELEY HIGH, Hartford
HARTFORD HIGH, Hartford
WEAVER HIGH, Hartford
RHAM REGIONAL HIGH SCHOOL, Hebron
MANCHESTER HIGH, Manchester
NEW BRITAIN HIGH, New Britain
SOUTHINGTON HIGH, Southington
WINDSOR HIGH, Windsor
WINDSOR LOCKS HIGH, Windsor Locks



CONNECTICUT INSTITUTE FOR HEALTH MANPOWER RESOURCES, INCORPORATED

PLANNING REGION C

HOSPITALS

- ■ GENERAL: private & state
- ● CHRONIC DISEASE: private & state
- ▲ PSYCHIATRIC: private & state

EXTENDED CARE FACILITIES

- ▼ REST HOMES with nursing supervision
- ▼ NURSING HOMES: profit & nonprofit

EDUCATIONAL INSTITUTIONS OFFERING IDENTIFIED HEALTH OCCUPATION PROGRAMS

① PUBLIC 4 YR & GRADUATE
② PRIVATE 4 YR & GRADUATE
③ PRIVATE 2 YR & PROPRIETARY
④ REGIONAL COMMUNITY COLLEGES
⑤ STATE TECHNICAL COLLEGES
⑥ VOCATIONAL TECHNICAL SCHOOLS
⑦ HIGH SCHOOL HEALTH PROGRAMS

HOSPITALS

■ DAY KIMBALL HOSPITAL, Putnam (169 beds)
▲ NATCHAUG HOSP. & NURSING H. Willimantic (30)
■ WINDHAM COMMUNITY MEMORIAL, Windham (174)

EXTENDED CARE FACILITIES
REST HOMES WITH NURSING SUPERVISION

▼ NORCLIFFE REST HOME, Brooklyn
PIERCE MEMORIAL BAPTIST HOME, Brooklyn
CREST HAVEN REST HOME, Plainfield
MATULAITIS REST HOME, Putnam

NURSING HOMES (PROFIT AND NON-PROFIT)

▼ WESTVIEW MANOR, Attawaugan
BROOKLYN CONVALESCENT HOME, Brooklyn
PIERCE MEMORIAL BAPTIST HOME, Brooklyn
STULA PAVILION, Danielson
VILLA MARIA CONVALESCENT, Plainfield
MATULAITIS NURSING HOME, Putnam
WILLINGTON CONVALESCENT HOME, Willington
ABBEY MANOR INC., Windham
NATCHAUG NURSING HOME, Windham
VALLEY VIEW CONV. HOME, Windham

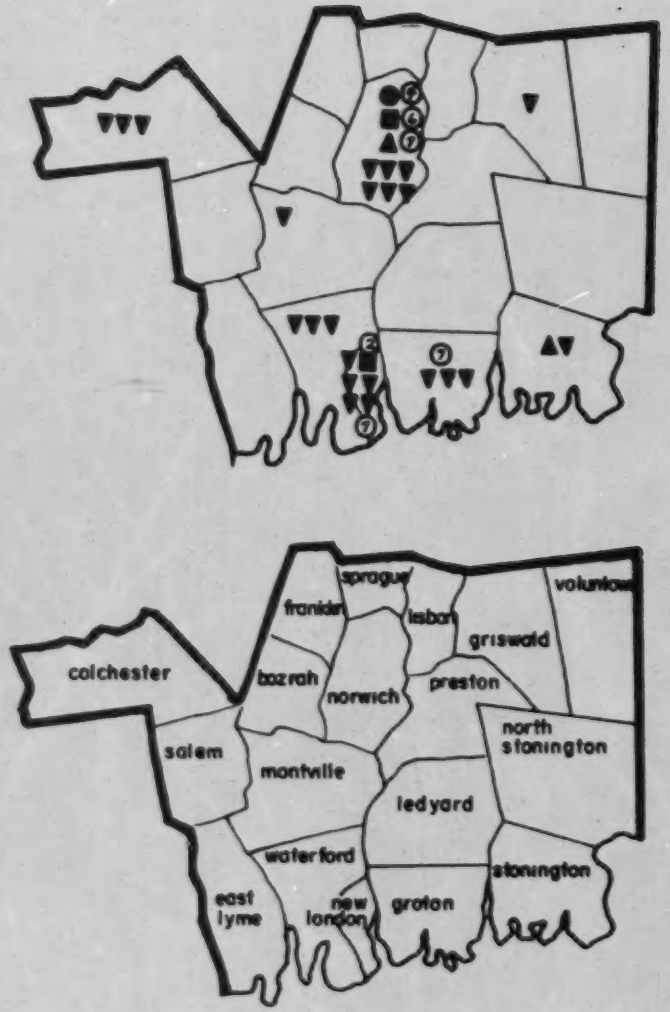
EDUCATIONAL INSTITUTIONS

Ⓠ QUINEBAUG VALLEY COMMUNITY COLL, Danielson
Ⓒ UNIVERSITY OF CONNECTICUT, Storrs
Ⓣ EASTERN CONN. STATE COLLEGE, Willimantic
Ⓖ WINDHAM REGIONAL VOC-TECH, Willimantic

HIGH SCHOOL HEALTH PROGRAMS

Ⓗ (None reported as of September, 1973)

C



HOSPITALS

- ■ GENERAL: private & state
- ● CHRONIC DISEASE: private & state
- ▲ PSYCHIATRIC: private & state

EXTENDED CARE FACILITIES

- ▼ REST HOMES with nursing supervision
  NURSING HOMES: profit & nonprofit

EDUCATIONAL INSTITUTIONS OFFERING IDENTIFIED HEALTH OCCUPATION PROGRAMS

- ① PUBLIC 4 YR & GRADUATE
- ② PRIVATE 4 YR & GRADUATE
- ③ PRIVATE 2 YR & PROPRIETARY
- ④ REGIONAL COMMUNITY COLLEGES
- ⑤ STATE TECHNICAL COLLEGES
- © VOCATIONAL TECHNICAL SCHOOLS
- ⑦ HIGH SCHOOL HEALTH PROGRAMS

PLANNING REGION D

CONNECTICUT INSTITUTE FOR HEALTH MANPOWER RESOURCES, INCORPORATED

HOSPITALS:

■ LAWRENCE & MEMORIAL HOSPITALS, New London (370 beds)
▲ NORWICH HOSPITAL, Norwich (1191)
● UNCAS-ON-THAMES HOSPITAL, Norwich (228)
■ WILLIAM W. BACKUS HOSPITAL, Norwich (245)
▲ STARLITE FARM, INC. N Stonington

EXTENDED CARE FACILITIES:
REST HOMES WITH NURSING SUPERVISION

▼ COVE VIEW MANOR, Montville
NORWICH REST HOME INC., Norwich
SACHEM HOME, Norwich

NURSING HOMES: (PROFIT AND NON-PROFIT)

▼ COLCHESTER CONVALESCENT HOME, Colchester
DR. FRIEDMAN'S CONVALESCENT HOME, Colchester
STULA CONVALESCENT HOME, Colchester

NURSING HOMES: (profit & non-profit, cont'd.)

▼ SUMMIT CONVALESCENT NURSING HOME, Griswold
GROTON CONVALESCENT HOME, Groton
ODD FELLOWS HOME INFIRMARY, Groton
MYSTIC MANOR, Mystic
BEECHWOOD MANOR INC., New London
BRIARCLIFF CONVALESCENT HOME, New London
CAMELOT INC., New London
HILLSIDE HOME INFIRMARY, New London
NUTMEG PAVILION, New London
ELMACHRI CONVALESCENT HOME, Norwich
FAIRLAWN'S INC., Norwich
HAMILTON PAVILION, Norwich
NORWICHTOWN CONVALESCENT HOME, Norwich
MARY ELIZABETH CONV. HOME, Stonington
GREEN TREE MANOR, Waterford
MARY KENNY NURSING HOME, Waterford
NEW LONDON CONV. HOME, Waterford

EDUCATIONAL INSTITUTIONS

○ CONNECTICUT COLLEGE, New London
◷ MITCHELL COLLEGE, New London
◐ MOHEGAN COMMUNITY COLLEGE, Norwich
◒ NORWICH REGIONAL VOC-TECH., Norwich

HIGH SCHOOL HEALTH PROGRAMS

Ⓣ FITCH SENIOR HIGH SCHOOL, Groton
NORWICH FREE ACADEMY, Norwich

D

HOSPITALS

- ■ GENERAL: private & state
- ● CHRONIC DISEASE: private & state
- ▲ PSYCHIATRIC: private & state

EXTENDED CARE FACILITIES

- ▼ REST HOMES with nursing supervision
  NURSING HOMES: profit & nonprofit

EDUCATIONAL INSTITUTIONS OFFERING IDENTIFIED HEALTH OCCUPATION PROGRAMS

- ① PUBLIC 4 YR & GRADUATE
- ② PRIVATE 4 YR & GRADUATE
- ③ PRIVATE 2 YR & PROPRIETARY
- ④ REGIONAL COMMUNITY COLLEGES
- ⑤ STATE TECHNICAL COLLEGES
- ⑥ VOCATIONAL TECHNICAL SCHOOLS
- ⑦ HIGH SCHOOL HEALTH PROGRAMS

PLANNING REGION E

CONNECTICUT INSTITUTE FOR HEALTH MANPOWER RESOURCES, INCORPORATED

HOSPITALS:

■ MERIDEN-WALLINGFORD HOSPITAL, Meriden (289 beds)
▲ UNDERCLIFF MENTAL HEALTH CENTER, Meriden
■ W.W. II VETERANS MEMORIAL HOSPITAL, Meriden (87)
■ MILFORD HOSPITAL, Milford (151)
▲ CONNECTICUT MENTAL HEALTH CENTER, New Haven
■ ST. RAPHAEL'S HOSPITAL, New Haven (474)
■ YALE NEW HAVEN HOSPITAL, New Haven (767)
▲ YALE PSYCHIATRIC INSTITUTE, New Haven
● GAYLORD HOSPITAL & SANITORIUM, Wallingford (118)
● MASONIC HOSPITAL, Wallingford (98)
■ V.A. HOSPITAL, West Haven

EXTENDED CARE FACILITIES:

REST HOMES WITH NURSING SUPERVISION

▼ AARON MANOR GERIATRIC HOME, Chester
MEADOWLEA, INC., Essex
THE CORNER HOUSE, Meriden
HAMILTON REST HOME, Milford
SHERMAN AVENUE REST HOME, New Haven
THE MARY WADE HOME, New Haven
LYDIAN INC., Orange
SKYVIEW REST HOME INC., Wallingford
OCEANVIEW REST HOME, West Haven

NURSING HOMES: (PROFIT AND NON-PROFIT)

▼ BRANFORD CONVALESCENT HOME, Branford
DUNCAN CONVALESCENT HOME, Branford
CHESTERFIELDS CONVALESCENT HOME, Chester
CLINTON CONVALESCENT CENTER, Clinton
DEEP RIVER CONVALESCENT HOME, Deep River
EAST HAVEN CHRONIC AND CONV. HOME, East Haven
HIGHLAND HALL CONVALESCENT HOME, Essex
PETTIPAUG CONVALESCENT HOME, Essex
FOWLERS CONVALESCENT HOME, Guilford
WEST LAKE LODGE, Guilford
ARDEN HOUSE OF HAMDEN, Hamden

NURSING HOMES: (profit & non-profit, cont'd.)

▼ HAMDEN CONV. NURSING CENTRE, Hamden
HYDE PARK CONVALESCENT HOME, Hamden
WHITNEY MANOR CONVALESCENT HOME, Hamden
WATROUS MEMORIAL, Madison
THE BRADLEY HOME, Meriden
CROSSON CONVALESCENT HOME, Meriden
CURTIS HOME INFIRMARY, Meriden
MERIDEN NURSING HOME, Meriden
MILLS MANOR CONVALESCENT HOME, Meriden
ROYAL CREST CONVALESCENT HOME, Meriden
WESTFIELD NURSING HOME, Meriden
GOLDEN HILL NURSING HOME, Milford
MILFORD HEIGHTS NURSING HOME, Milford
POND POINT CONVALESCENT HOME, Milford
SEASIDE EXTENDED CARE FACILITY, Milford
BRENTWOOD MANOR, New Haven
CAREWELL CONVALESCENT HOME, New Haven
CARILLON CONVALESCENT HOME, New Haven
COVE MANOR CONVALESCENT HOME, New Haven
GOLDEN MANOR CONVALESCENT HOME, New Haven
JEWISH HOME FOR AGED, INC., New Haven
NEW FAIRVIEW HALL, New Haven
NEW HAVEN CONVALESCENT NURSING HOME, New Haven
PARKVIEW MEDICAL RECOVERY CENTER, New Haven
KEEFE'S CONVALESCENT HOME, North Haven
MONTOWESE CONVALESCENT HOME, North Haven
PETTIPAUG SOUTH HEALTH CARE FACILITY, O. Saybrook
SAYBROOK CONVALESCENT HOME, Old Saybrook
ORANGE CONVALESCENT HOME, Orange
MASONIC HOME AND HOSPITAL, Wallingford
SKYVIEW CONVALESCENT HOME, Wallingford
WALLINGFORD CONVALESCENT HOME, Wallingford
ARTERBURN CONVALESCENT HOME, West Haven
BENTLEY GARDENS NURSING HOME, West Haven
BREAKERS CONVALESCENT HOME, West Haven
HAWKINS CONVALESCENT HOME, West Haven
METHODIST CHURCH HOME INFIRMARY, West Haven
SOUND VIEW CONVALESCENT CENTER, West Haven
WEST HAVEN MANOR, West Haven

EDUCATIONAL INSTITUTIONS

① ELI WHITNEY REGIONAL VOC-TECH, Hamden
② QUINNIPIAC COLLEGE, Hamden
③ H.C. WILCOX REGIONAL VOC-TECH, Meriden
④ ALBERTUS MAGNUS COLLEGE, New Haven
⑤ GRACE-NEW HAVEN SCH.OF NURSING, New Haven
⑥ SOUTH CENTRAL COMMUNITY COLL., New Haven
○ SOUTHERN CONN. STATE COLLEGE, New Haven
⑧ UNIVERSITY OF NEW HAVEN, New Haven
⑨ YALE UNIVERSITY, New Haven

HIGH SCHOOL HEALTH PROGRAMS

⑦ BRANFORD HIGH, Branford
GUILFORD HIGH, Guilford
HAMDEN-NEW HAVEN COOP. CENTER, Hamden
MALONEY HIGH, Meriden
PLATT HIGH, Meriden
WILBUR CROSS HIGH, New Haven
HILLHOUSE HIGH, New Haven
LEE HIGH, New Haven
NORTH HAVEN HIGH, North Haven
OLD SAYBROOK HIGH, Old Saybrook
LYMAN HALL HIGH, Wallingford
WEST HAVEN HIGH, West Haven

E

HOSPITALS

- ■ GENERAL: private & state
- ● CHRONIC DISEASE: private & state
- ▲ PSYCHIATRIC: private & state

EXTENDED CARE FACILITIES

- ▼ REST HOMES with nursing supervision
  NURSING HOMES: profit & nonprofit

EDUCATIONAL INSTITUTIONS OFFERING IDENTIFIED HEALTH OCCUPATION PROGRAMS

1. PUBLIC 4 YR & GRADUATE
2. PRIVATE 4 YR & GRADUATE
3. PRIVATE 2 YR & PROPRIETARY
4. REGIONAL COMMUNITY COLLEGES
5. STATE TECHNICAL COLLEGES
6. VOCATIONAL TECHNICAL SCHOOLS
7. HIGH SCHOOL HEALTH PROGRAMS

PLANNING REGION F

CONNECTICUT INSTITUTE FOR HEALTH MANPOWER RESOURCES, INCORPORATED

HOSPITALS:

- BRIDGEPORT HOSPITAL, Bridgeport (673 beds)
- DINAN MEMORIAL CENTER, Bridgeport (56)
- GREATER BRIDGEPORT COM. HEALTH CENTER, Bridgeport
- PARK CITY HOSPITAL, Bridgeport (208)
- ST. VINCENT'S HOSPITAL, Bridgeport (342)
- GRIFFIN HOSPITAL, Derby (238)
- GREENWICH HOSPITAL, Greenwich (426 beds)
- SILVER HILL FOUNDATION, New Canaan
- NORWALK HOSPITAL, Norwalk (390)
- LAUREL HEIGHTS HOSPITAL, Shelton (213)
- ST. JOSEPH'S HOSPITAL, Stamford (260)
- STAMFORD HOSPITAL, Stamford (386)
- ST. JOSEPH'S MANOR, Trumbull (41)
- HALL-BROOKE HOSPITAL FOUNDATION, Westport

EXTENDED CARE FACILITIES:
REST HOMES WITH NURSING SUPERVISION

- MOUNTAIN LAUREL MANOR, Bridgeport
- MARSHALL LANE MANOR, Derby
- PROSPECT GARDENS REST HOME, Norwalk
- LONG HILL REST HOME, Shelton
- LORD CHAMBERLAIN, Stratford
- ST. JOSEPH'S MANOR, Trumbull

NURSING HOMES: (PROFIT AND NON-PROFIT)

- DINAN MEMORIAL CENTER, Bridgeport
- GOLDEN HEIGHTS MANOR INC., Bridgeport
- PARK AVENUE CONVALESCENT HOME, Bridgeport
- SYLVAN MANOR CONVALESCENT HOME, Bridgeport
- THIRTY-THIRTY PARK HEALTH CENTER, Bridgeport
- MOUNTAIN LAUREL MANOR, Bridgeport
- DERBY NURSING HOME, Derby
- CAROLTON CHRONIC & CONV. HOME, Fairfield
- SOUTHPORT MANOR, Fairfield
- VAN DOREN CONVALESCENT HOME, Fairfield
- GREENWICH-LAURELTON NURSING HOME, Greenwich
- PUTNAM-WEAVER NURSING HOME, Greenwich
- NATHANIEL WITHERELL HOME, Greenwich
- PINE VIEW CONVALESCENT HOME, Monroe
- ELMCREST HEALTH CARE CENTER, Norwalk
- LEA MANOR CONVALESCENT HOME, Norwalk
- NOTRE DAME CONVALESCENT HOME, Norwalk
- PROSPECT GARDENS, Norwalk
- SHADY KNOLL CONVALESCENT HOME, Seymour
- FLORA & MARY HEWITT MEMORIAL HOME, Shelton
- LONG HILL NURSING HOME, Shelton
- UNITED METHODIST CONVALESCENT HOME, Shelton
- COURTLAND GARDENS CONV. HOME, Stamford
- THE SMITH HOUSE, Stamford
- HOMESTEAD CHRONIC & CONV. HOME, Stamford

NURSING HOMES: (profit & non-profit, cont'd.)

- STRAWBERRY HILL CONV. HOME, Stamford
- WYNDOVER CONVALESCENT HOME, Stamford
- ST. JOSEPH'S MANOR, Trumbull
- TRUMBULL-ST. MARY'S CONV. HOME, Trumbull
- WESTPORT MANOR, Westport

EDUCATIONAL INSTITUTIONS

- (B) BULLARD-HAVENS VOC-TECH., Bridgeport
- (U) UNIVERSITY OF BRIDGEPORT, Bridgeport
- (4) HOUSATONIC COMMUNITY COLLEGE, Bridgeport
- (F) FAIRFIELD UNIVERSITY, Fairfield
- (N) NORWALK COMMUNITY COLLEGE, Norwalk
- (S) NORWALK STATE TECHNICAL COLL., Norwalk
- (W) J.M. WRIGHT VOC.-TECH., Stamford

HIGH SCHOOL HEALTH PROGRAMS

- (7) ANSONIA HIGH, Ansonia
- BASSICK, Bridgeport
- CENTRAL HIGH, Bridgeport
- HARDING HIGH, Bridgeport
- DERBY HIGH, Derby
- BRIEN McMAHON, Norwalk
- SHELTON HIGH, Shelton
- STAMFORD HIGH, Stamford
- RIPPOWAM HIGH, Stamford
- WEST HILL HIGH, Stamford
- TRUMBULL HIGH, Trumbull

F

RATE OF RESPONSE *
FOR
SURVEY QUESTIONNAIRE

Type of Institution	Number Surveyed	No. of Returns	% Response
HOSPITALS	60	56	93.3%
EDUCATIONAL INSTITUTIONS	98	89	90.8%
NURSING HOMES	211	57	27.0%
REST HOMES WITH NURSING SUPERVISION	64	15	23.4%
DENTAL LABORATORIES	70	22	31.4%
VISITING NURSE ASSOCIATIONS	95	60	63.1%
CLINICAL LABORATORIES	139	46	33.1%
INDUSTRIAL INFIRMARIES	248	72	29.0%
SCHOOL INFIRMARIES	43	14	32.5%
AMBULANCE SERVICES	179	29	16.2%
LOCAL HEALTH DEPARTMENTS	20	5	25.0%
CLINICS	54	10	18.5%
VOLUNTARY HEALTH ORGANIZATIONS	24	9	37.5%
NEIGHBORHOOD HEALTH CENTERS AND HEALTH MAINTENANCE ORGANIZATIONS	11	5	45.4%
MD GROUP PRACTICES	88	20	22.7%
PHYSICAL THERAPY CONTRACTORS	6	5	83.3%
STATE AGENCIES & EMPLOYEES	137	121	88.3%
TOTALS	1,547	635	41.0%

Note: The number of returns reflects only whether or not the questionnaire was returned with useable information. Returns may vary in the report due to a different rate of return for each section. Returns may even be higher in cases where the information was given in an interview.

*THE CONNECTICUT INSTITUTE FOR HEALTH MANPOWER RESOURCES, INC.

social worker.respiratory the
dance therapist.physical ther
nuclear medicine technologist
pharmacist.medical office adm
psychiatric aide.nursing tech
child technician.nurse anesth
medical records librarian.bio
histologic technician.environ
industrial hygienist.dietetic
oral hygiene aide.health care
medical illustrator.psychiatr
electrocardiograph technician
pulmonary function technician
alcohol and drug counselor.da
art therapist.rehabilitation
speech pathologist.audiologis
physician assistant.correctio
nursing aide.pediatric nurse
coronary care nurse.biomedica
cytotechnologist.microbiologi
health educator.dietetic tech
medical librarian.ward clerk.
electroencephalograph technic
community health aide.social
respiratory therapist.pulmona
orthotist.prosthetist.music t
manual arts therapist.recreat
radiation therapy technologis
public health aide.nursing te
licensed practical nurse.hist
dental hygienist.dietitian.en
clinical chemist.microbiologi
ward clerk.psychologist.biome
social service aide.respirato
rehabilitation aide.occupatio
medical office administration

HE005824 HE005884 ED 095 807

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Study of Educational Programs and Employment Opportunities in Health

PREPARED BY THE CONNECTICUT INSTITUTE FOR HEALTH MANPOWER RESOURCES, INC.

BEST COPY AVAILABLE

January 1974

The Organization

The Connecticut Institute for Health Manpower Resources is a community-based consortium of representatives of health and education organizations, government and the health professions, business, labor and consumers of health services. Its activities focus on two major areas of concern -- 1) Information regarding health manpower training, education and utilization throughout the State of Connecticut, and 2) Coordination of these resources for improved communication and possible new institutional arrangements.

Within these basic categories of information and coordination, the Institute functions as a convener, catalyst, advisor or information provider, actively seeking to bring an articulated systems approach to such problems in the health services field as:

1. Recruitment and education of health workers.

2. Centralized information and analysis of manpower needs, careers, education and utilization.

3. The encouragement of inter-institutional and inter-professional collaboration.

4. The fostering of innovations and experiments in the preparation and utilization of health workers while encouraging public acceptance and understanding.

not by numbers alone...

STUDY OF EDUCATIONAL PROGRAMS AND EMPLOYMENT OPPORTUNITIES IN HEALTH IN CONNECTICUT AND THE NORTHEAST

This study was developed by The Connecticut Institute for Health Manpower Resources, Inc., for the Connecticut Commission on Higher Education in compliance with the Connecticut General Assembly Special Act 73-105 and was partially supported by a grant from the Connecticut Regional Medical Program.

THE CONNECTICUT INSTITUTE FOR HEALTH MANPOWER RESOURCES, INC.
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Selma Lee Markowitz, MPH, Executive Director - CIHMR

The Connecticut Institute For Health Manpower Resources, Inc.

770 ASYLUM AVENUE. HARTFORD. CONNECTICUT 06105 TEL (203) 247-9677

February 1, 1974

Dr. Warren G. Hill, Chancellor
Commission for Higher Education
P.O. Box 1320 340 Capitol Avenue
Hartford, Connecticut 06101

Dear Chancellor Hill:

The Connecticut Institute for Health Manpower Resources Inc. herewith transmits to the Connecticut Commission for Higher Education the results of a study in connection with Special Act 73-105 concerning the coordination of educational programs and employment opportunities in Connecticut and the Northeast, now and in the future.

It is our pleasure to turn over to you this health manpower report of approximately 500 pages, the contents of which are based mostly on primary data generated during the course of this six-month study from responses to questionnaires and interviews with Connecticut education and employment institutions, including selected State agencies. Institute contact with other states throughout the country concerning their health manpower studies and information systems revealed that Connecticut's study was indeed unique: our legislation required a concurrent study of education and employment, to determine compatibility, within six months for the entire region plus our own state, and to make projections. It is hoped, therefore, that this enclosed study will serve as the first stage in the development of an ongoing health manpower information system for this State.

Appreciative recognition is due at this time for the support provided by the Connecticut Regional Medical Program for additional research included in this study.

///

It is our pleasure to report that there appears to be no overall crisis in the supply and demand of health manpower in Connecticut. The Commission for Higher Education and its constituent elements, as well as the numerous other Connecticut educational and health care institutions offering health career programs, are producing a sufficient number of programs overall to meet employment demand in Connecticut. The study indicates selected shortages and selected overages for selected occupations:- these require further scrutiny for geographical location, educational level, employment alternatives and additional variables.

We call to your attention the new title for this study, - "Not By Numbers Alone--." It is our earnest plea to you and others who will be using this data for decision making to read on past the statistics to those sections of the study which offer narration, findings, profiles and additional information.

We submit this frame of reference for your consideration: Education for a health profession or health-related career involves a combination of academic courses and clinical training. Both components are necessary to the health educational program offered to the student. Therefore both academic and clinical institutions should be included in the educational orbit. If this logic is accepted, coordination of systems, programs, people, places could occur in an orderly, natural fashion with mutual benefit for all components, especially the student and the eventual consumer of this student's services.

On behalf of the CIHMR Board of Directors and staff, I would like to express appreciation to you, to Lou Rabineau, Bob Bokelman, Francis Degnan, and to your helpful CHE staff for the opportunity to undertake this worthwhile study, and for your encouragement, aid and direction.

Respectfully submitted,

Selma Lee Markowitz

SELMA LEE MARKOWITZ, MPH
Project Coordinator

SLM:ih
Enc.

CONNECTICUT EDUCATION/EMPLOYMENT STUDY FOR HEALTH MANPOWER

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Section E. PROJECTIONS (John Glasgow, Ph.D.)

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ACKNOWLEDGMENT

A study of this magnitude could not have been developed, compiled and executed without the cooperation and advice of many individuals and groups. To all of these people, we wish to express our appreciation for their continuing assistance and encouragement in the execution of this study.

- To Senator Ruth O. Truex and Representative Rufus C. Rose, co-chairmen of the Joint Education Committee of the Connecticut General Assembly responsible for Special Act 73-105;

  Chancellor Warren G. Hill, Deputy Director Louis Rabineau, Drs. Robert Bokelman and Francis Degnan, Frank McLean and the staff of the Connecticut Commission of Higher Education;

  Director Edward Morrissey, and Edwin Bradley of the Connecticut Regional Medical Program;

  The members of the Board of Directors of The Connecticut Institute for Health Manpower Resources, Inc., a special recognition of their interest, expertise and support;

- To the Presidents and Administrators of the Connecticut educational institutions, their faculties and staff, as well as the central offices of the higher education community and those health institutions providing educational programs -- our sincere appreciation for furnishing responses to questionnaires and interviews;

- To the Directors, Administrators and staff of the employing institutions of health personnel -- thanks for "filling out another one of those questionnaires" and agreeing to be interviewed;

- To the State Agencies for participating in the Mini-Survey to discover their roles as employer and educator of health personnel;

- To the State Licensing Boards, the Division of Licensing and Registration, and Comprehensive Health Planning "A" and "B" agencies for specialized manpower and facilities data;

- To numerous professional, health, and business organizations and individuals for their knowledgeable input toward the validation of this study's findings: Connecticut Hospital Association (Director Herbert Anderson, Robert Healey and Robert Bergeron); Connecticut Association of Extended Health Care Facilities (President Francis P. Dellafera); Task Force to Reorganize Nursing Education and Service (Chairman Barbara Donaho); Connecticut Coalition of Independent Health Professions (President Janet Small plus representatives of 8 health professions);

Connecticut Business and Industry Association (President Arthur Woods): The Hartford Insurance Group (Joseph Gaffney and Samuel Rothchild); Bureau of Health Resources Development, HEW (William Lybrand, M.D., Howard Stambler): American Hospital Association (Barbara Bloom); New England Regional Commission (Robert Merriman, E. Putarys): New England Board of Higher Education (Alan Ferguson, Robert Melican): Dean Stan Katz (Quinnipiac College); George Silver, M.D. (Yale School of Medicine); Dean Frederick Adams, D.D.S., M.P.H. (University of Connecticut School of Allied Health); Willard Duff, PhD and Evelyn Scholtz (Hartford Hospital); Lou Abbey (Mt. Sinai Hospital); Charles Turner (New Haven Institute for Allied Health Careers); Claire Reinhardt, PhD and Gloria Robinson (Vocational Education); Maye Grant (Hartford Process);

- To Pat Bohan of the University of Connecticut Health Center Biomedical Communications for her excellent graphic interpretations of the study's findings;

- To the volunteer interviewers from the staffs of community agencies: Wanda Hatmaker and Monti Bailey of the New Haven Institute for Allied Health Careers: Carol Lanier of the Hartford Health Care Council ("B" agency); Debby Mandel and Art Pulaski of the Midstate Connecticut River Estuary Comprehensive Health Planning Council, Inc. ("B" agency); Dennis Hamilton of the Greater Bridgeport Community Health Planning Agency ("B" agency); Gwen Gardner and Jesse Davis of Hartford's Community Renewal Team: Dominic Avampato of South Central Community College: also Randy Coloni, Stan Goldman and Martha Markowitz;

- To those specialists whose consultant skills contributed uniquely to this study: Computer consultant Robert S. Barr and Programmer L. E. Stone of the Rensselaer Polytechnic Institute: Education Director Robert Bergeron of the Connecticut Hospital Association: Myron Howard of the Connecticut Manpower Executives Association: Research Director Alfred Horowitz of the Connecticut State Department of Labor; Public Health Education Chief Milton Geyer, State Health Dept.

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Lucy T. Hammer, President
Connecticut Institute for Health
Manpower Resources, Inc.

Selma Lee Markowitz, MPH
Study Coordinator
CIHMR Executive Director

GLOSSARY

Allied Health The term ALLIED HEALTH, when broadly used, includes those personnel who support the work of physicians, dentists, and registered nurses in the areas of patient care, public health, health research, and environmental health. Such workers function at professional, technical, or supportive levels to complement and supplement the activities of the principal health professionals.

Program An allied health educational program is a planned series of courses at one particular academic level which includes formal classroom instruction, laboratory instruction, and/or clinical training leading to competency in a specific allied health profession or occupation. Two series of courses which differ significantly in required content, duration, occupational objectives, or educational prerequisites are considered to be two separate programs. A program may be either of the following:

Degree Program Leads to an associate, baccalaureate, master's, or doctoral degree (e.g., medical technology, physical therapy, occupational therapy, medical record science).

Non-Degree Program Does not lead to an undergraduate or graduate degree and may or may not lead to a certificate or diploma.

Technician denotes an individual who has completed two or more years of post-high school training and has received an associate degree or certificate after training;

Technologist denotes an individual who has completed four years of education beyond high school, has received a baccalaureate or a post-baccalaureate certificate. Advanced education for technologists may lead to the master's or doctor's degrees.

Certification The process by which non-governmental agency or association grants recognition to an individual who has met certain predetermined qualifications specified by that agency or association.

Licensure. The process by which an agency of government grants permission to persons meeting predetermined qualifications to engage in a given occupation and/or use a particular title; or, grants permission to institutions to perform specified functions.

Registration The process by which qualified individuals are listed on an official roster maintained by a governmental or non-governmental agency.

The term certification is used when attesting to a certain level of competency; registration is more appropriately the process by which the certified or licensed individuals are listed on an official roster.

Perhaps more in health than in any other service industry, "need" and "demand" are clouded and confused by interest groups' biases. A given area might have a well-documented need for, say five physical therapists but as long as the money is not available to fund these positions, there is no demand.

Demand The number of jobs that can be financed with current or future funds.

Need The number of persons in a field who will be required to produce a given level or amount of service judged to be desirable.

The distinction is between social ideals (what people feel ought to be done) and economic realities (what people are able to pay for).

FINAL LIST OF HEALTH OCCUPATIONS COVERED IN CIHMR STUDY

Administration
- Hospital Administrator
- Nursing Home Administrator
- Health Care & Services Administrator

Dental
- Dental Hygienist:
  - A.S.
  - B.S.
  - Degree unspecified
- Dental Assistant
- Dental Laboratory Technician

Dietitian

Education
- Health Educator
- Teacher, Special Education

Environmental Health
- Environmental Health Technologist
- Environmental Health Technician
- Environmental Health, unspecified

Laboratory
- Histologic Technician
- Cytotechnologist
- Certified Laboratory Assistant
- Medical Laboratory Technician
- Medical Technologist

Laboratory, Cont'd.
- Med. Tech. & M.L.T. combined
- Medical Laboratory Assistant (OJT)

Medical Records
- Medical Record Librarian
- Medical Record Technician
- Medical Transcriptionist

Nursing
- R.N.
- L.P.N.
- Nursing Aide
- Psychiatric Aide
- Correctional Attendant I
- Pediatric Nurse Associate
- Adult Nurse Practitioner
- Nurse Midwife
- Nurse Anesthetist

Physician Assistant
- Physician Assistant in Pathology
- Physician Associate

Radiology
- Radiologic Technologist
- Radiation Therapy Technologist
- Nuclear Medicine Technologist

Rehabilitation Therapy
- Speech Pathologist and Audiologist
- Counselor, Rehabilitation Services
- Rehabilitation Aide
- Orthotist and Prosthetist

Physical Therapy:
- Physical Therapist
- Physical Therapy Assistant
- Physical Therapy Aide

Occupational Therapy:
- Occupational Therapist
- Occupational Therapy Assistant
- Occupational Therapy Aide

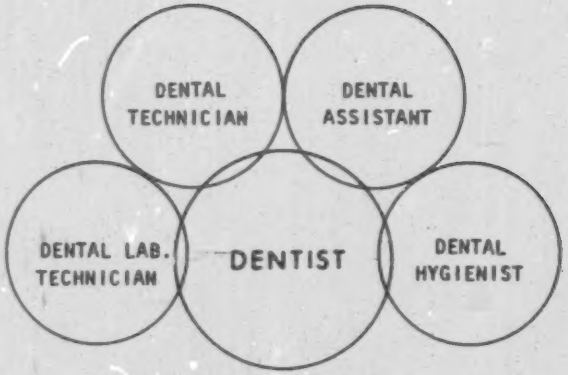
Recreation Therapy:
- Recreation Therapist
- Recreation Therapy Assistant
- Recreation Worker
- Recreation Aide

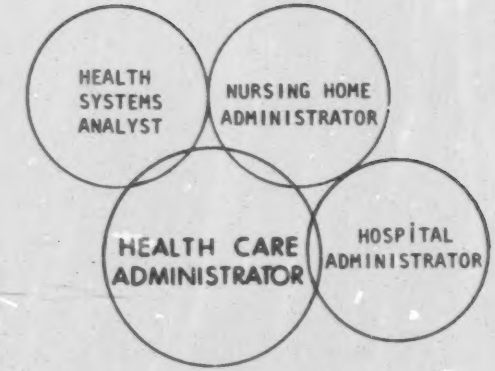
Respiratory Therapy
- Respiratory Therapist
- Respiratory Therapy Technician
- Pulmonary Function Technician

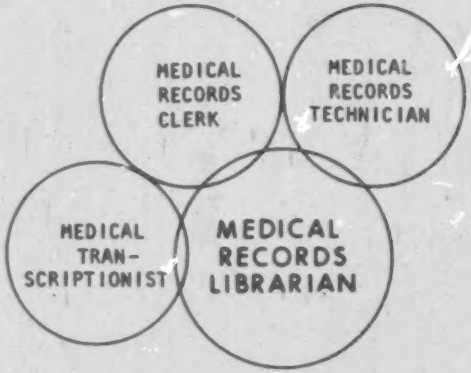
Social Services
- Social Worker:
  - M.S.W.
  - B.S.
  - Degree unspecified
- Social Service Aide
- Community Health Aide
- Mental Health Worker

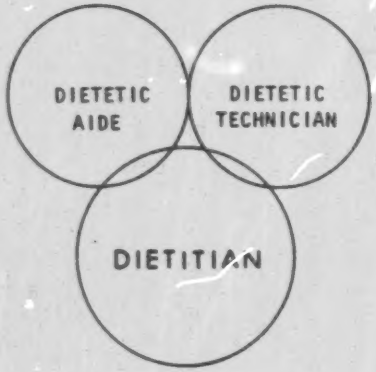
Technicians
- Biomedical Equipment Technician
- Surgical Technician

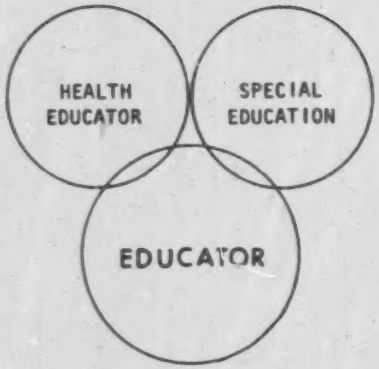
Additional Occupations
- Clinical Psychologist
- Pharmacist
- Medical Librarian
- Biological Photographer
- Medical Illustrator

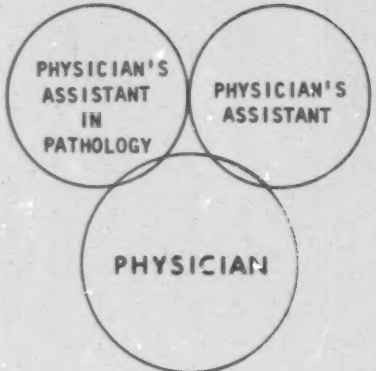

DENTAL TECHNICIAN
DENTAL ASSISTANT
DENTAL LAB. TECHNICIAN
DENTIST
DENTAL HYGIENIST

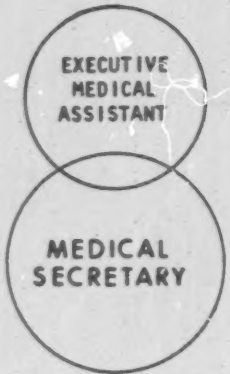

HEALTH SYSTEMS ANALYST
NURSING HOME ADMINISTRATOR
HEALTH CARE ADMINISTRATOR
HOSPITAL ADMINISTRATOR

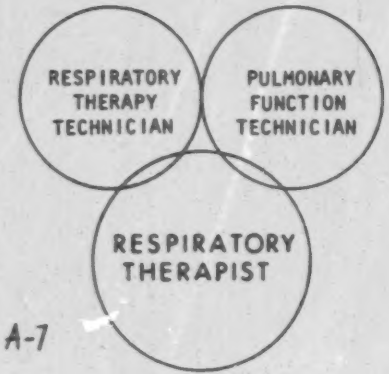

MEDICAL RECORDS CLERK
MEDICAL RECORDS TECHNICIAN
MEDICAL TRAN-SCRIPTIONIST
MEDICAL RECORDS LIBRARIAN

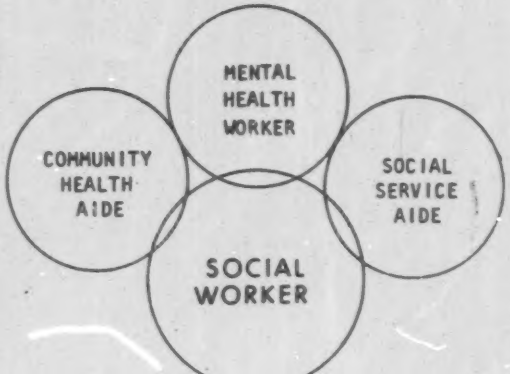

DIETETIC AIDE
DIETETIC TECHNICIAN
DIETITIAN

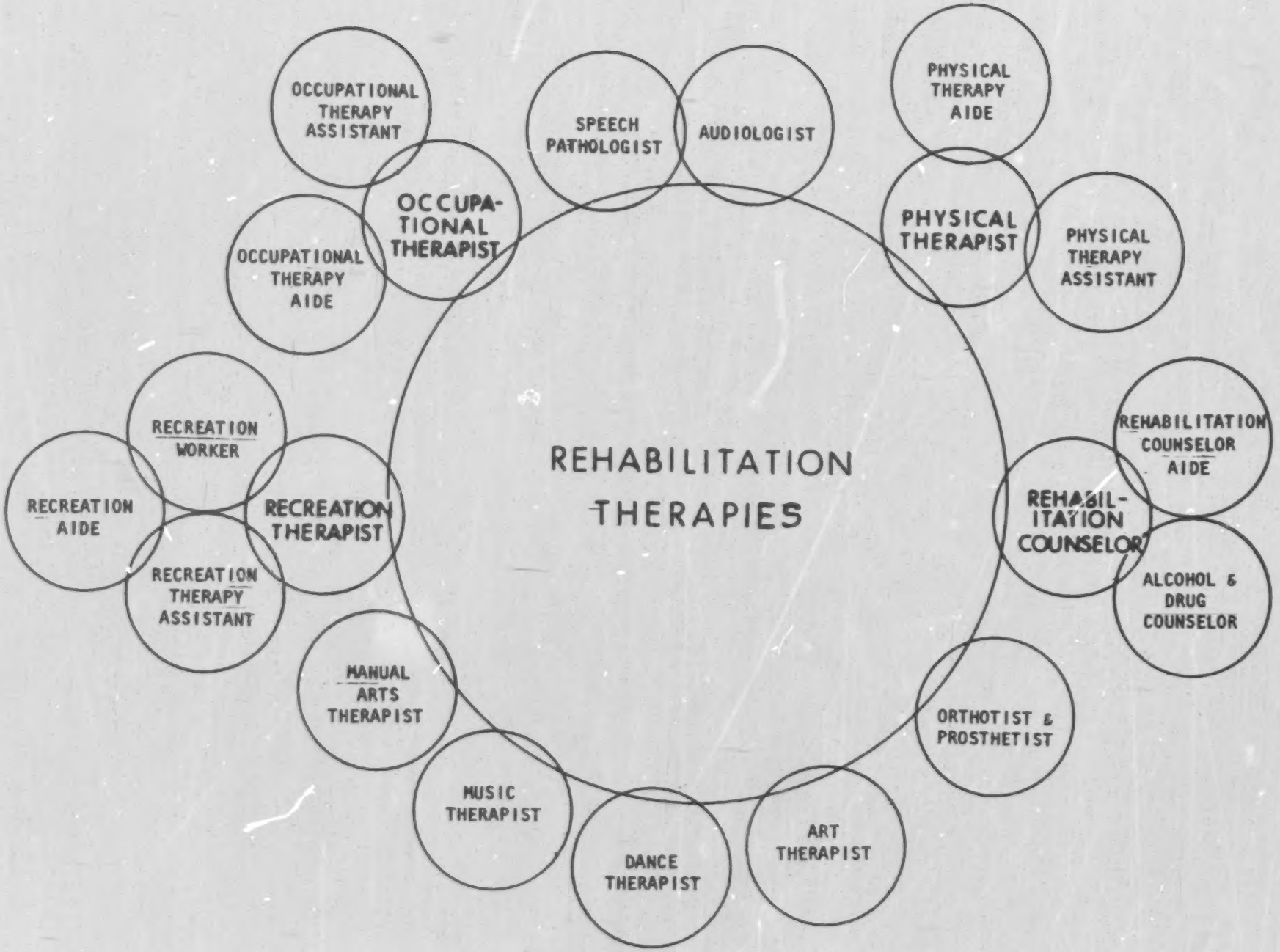

HEALTH EDUCATOR
SPECIAL EDUCATION
EDUCATOR

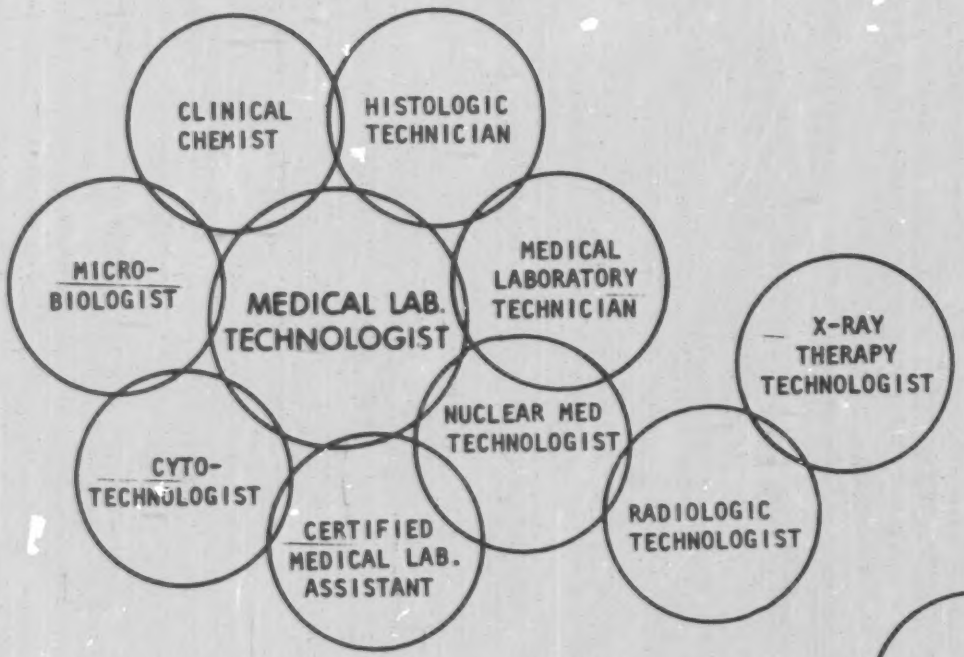

PHYSICIAN'S ASSISTANT IN PATHOLOGY
PHYSICIAN'S ASSISTANT
PHYSICIAN

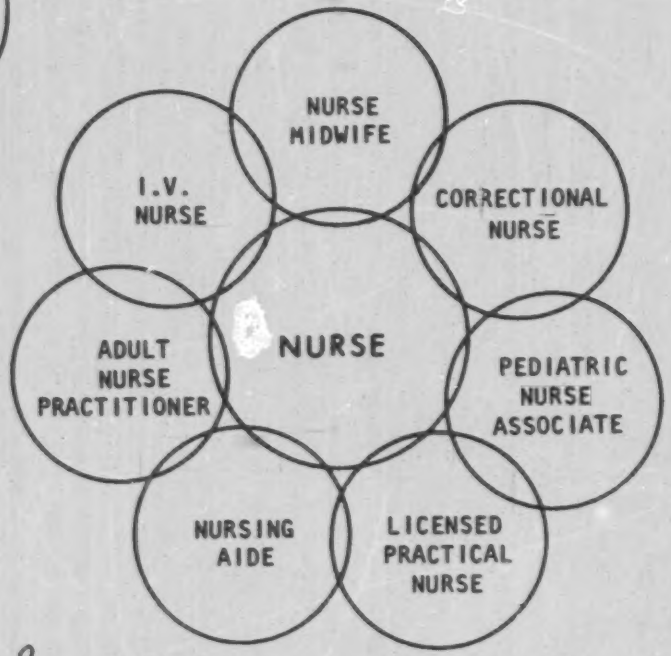

EXECUTIVE MEDICAL ASSISTANT
MEDICAL SECRETARY


RESPIRATORY THERAPY TECHNICIAN
PULMONARY FUNCTION TECHNICIAN
RESPIRATORY THERAPIST


MENTAL HEALTH WORKER
COMMUNITY HEALTH AIDE
SOCIAL SERVICE AIDE
SOCIAL WORKER


REHABILITATION THERAPIES
OCCUPATIONAL THERAPY ASSISTANT
OCCUPATIONAL THERAPIST
OCCUPATIONAL THERAPY AIDE
SPEECH PATHOLOGIST
AUDIOLOGIST
PHYSICAL THERAPY AIDE
PHYSICAL THERAPIST
PHYSICAL THERAPY ASSISTANT
REHABILITATION COUNSELOR AIDE
REHABIL-ITATION COUNSELOR
ALCOHOL & DRUG COUNSELOR
ORTHOTIST & PROSTHETIST
ART THERAPIST
DANCE THERAPIST
MUSIC THERAPIST
MANUAL ARTS THERAPIST
RECREATION WORKER
RECREATION AIDE
RECREATION THERAPIST
RECREATION THERAPY ASSISTANT


CLINICAL CHEMIST
HISTOLOGIC TECHNICIAN
MICRO-BIOLOGIST
MEDICAL LAB. TECHNOLOGIST
MEDICAL LABORATORY TECHNICIAN
X-RAY THERAPY TECHNOLOGIST
NUCLEAR MED TECHNOLOGIST
CYTO-TECHNOLOGIST
CERTIFIED MEDICAL LAB. ASSISTANT
RADIOLOGIC TECHNOLOGIST


NURSE MIDWIFE
I.V. NURSE
CORRECTIONAL NURSE
ADULT NURSE PRACTITIONER
NURSE
PEDIATRIC NURSE ASSOCIATE
NURSING AIDE
LICENSED PRACTICAL NURSE

I. INTRODUCTION

A. Background

Legislators, educators, and employers have long been concerned with the lack of attention given to the match between the occupations and professions for which the schools were preparing students and the level of employment demand for those fields. This lack of attention to the educational/employment match led to predictable results - surplus jobs in some fields or areas while in other fields well-prepared graduates could not find employment. This problem, increasingly evident in the last few years, led the Connecticut State Legislature to pass Special Act 73-105 Concerning the Coordination of Educational Programs with Employment Opportunities.

Effective July 1, 1973, Special Act 73-105 called upon the Commission for Higher Education to undertake a study of the problems with respect to the courses of study offered at the constituent units of the state system of higher education and the opportunities for employment available at present and as projected in the future, in Connecticut and the Northeast, in relationship to such courses of study. Said Commission shall report its findings and recommendations to the joint standing committee on education on or before February 1, 1974.

The Commission for Higher Education considered the requested study "to be an imperative and extensive undertaking of critical importance to the state in its planning effort to provide programs that relate to the state's and region's manpower needs." At the same time, the Commission recognized that the charge, taken literally, called for an examination of all courses of study in all state colleges and universities in Connecticut and all the other Northeastern states and a comparison of the output of these courses with all employment opportunities in all fields and geographic areas for which any course of study might prepare a student. Furthermore, this task was to be accomplished in eight months. Obviously, the job could not be done within that time constraint. Consequently the Commission decided to limit the initial phase of the study to a single major employment field, the health industry.

The study of health manpower as the first phase was dictated by several considerations. First, the health field is large and complex whether viewed from the educational side or the employment side. For example, in Connecticut 134 institutions offer 334 health-related educational programs in 91 health occupations and professions. This includes 12 vocational-technical schools providing 4 types of health programs. Forty-six high schools provide instruction in 5 health-related areas. Of Connecticut's 46 institutions of higher education, 29 are involved in health careers education,

offering a total of 140 programs for 57 career specialties. At least 2 proprietary schools offer education in health careers. Forty-one employing institutions provide 111 programs for 26 careers: hospitals, nursing homes, and other employers provide in-service training for their employees as well. Several Connecticut State agencies offer health-related educational programs. The spread and diversity of Connecticut health educational programs and its employment methods and patterns manifest a uniqueness and complexity requiring special study.

Second, it is a rapidly expanding industry. Indeed, it has become the single largest industry in the United States. Rapid expansion coupled with major financial, organizational, and technological changes has resulted in critical problems with respect to the diversity of categories of professional competence, the variety of programs being developed in our colleges and universities, and the shifting patterns of employment. It has also led to a situation in which educational institutions, encouraged by a variety of federal and state subsidies, have rushed into new programs designed to meet the manpower shortages which had to exist in such a rapidly expanding industry. Unfortunately, the documentation of those "shortages" left much to be desired.

In short, the Commission recognized that health manpower may be rapidly approaching its own critical point. If problems such as those facing the teaching profession were to be avoided, the area needs attention now.

Having made the choice to initially concentrate on health manpower, the Commission in August, 1973 contracted with the Connecticut Institute for Health Manpower Resources, Inc. to actually undertake the study and to report its findings to the Commission by January 1974.

B. Study Objectives

The objectives of the study to be conducted by the Institute, as jointly agreed to with the Commission, were:

1. To examine the current and projected supply of health manpower in selected health professions, with particular attention being given to those professions or occupations for which most of the state's institutions of higher education provide training or educational programs and/or which require licensure, certification, and/or registration.

2. To examine the current and projected requirements for these same professions or occupations, with particular attention being given to employment opportunities in the hospital and nursing home sector.

3. To make recommendations based on an analysis of the data reported above about the need for retention of presently offered courses of instruction and/or development of alternative courses; and the form and content of a health manpower information system.

Examination of these objectives make it clear that, while a study limited to health manpower was narrower than the total mandate of Special Act 73-105, the scope of the proposed study was more extensive than that suggested in the Act. For example, the information to be collected extended beyond the recognized constituent elements of the higher education system to the high school system, hospital schools, proprietary schools, and state agencies. In addition, although on-the-job training programs were not part of the study proper, it was decided to report such programs uncovered during the course of the study. Finally, on the employer side, the majority of institutions and employers concerned with the delivery of health care were studied. These included both the customary major employers of health personnel as well as some employers not usually considered, such as industrial and school infirmaries, drug clinics, physical therapy contractors, and central offices of state agencies. In all, over 1,500 institutions and facilities* were surveyed during one or more parts of the study.

C. Overall Study Approach

Whenever feasible, secondary information was to be utilized in preparing the study reports. However, for the most part, reliable and current data relating to Connecticut employment opportunities and educational programs in the health field simply did not exist. Furthermore, those previous studies which were available had examined either employment opportunities or educational programs, but not both; were concerned with a limited selection of occupations, usually the licensed professions, while the present mandate was to include the many, non-licensed, registered, or certified occupations;

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* It should be noted that an approach was made to both the State Medical and Dental societies to include their members in the study of employers. However, the time available did not allow the development, review, and testing of a questionnaire acceptable to those groups. It was decided, therefore, to concentrate on institutions and facilities.

or were primarily concerned with a description of "what was" when the need was for information to guide decisions about "what is to be". Thus, it was clear that completion of the study would demand primary data collection.

1. The Primary Data Collection*

In preparation for this effort, consultations were obtained from educational program directors; hospital and nursing home administrators; personnel directors; individuals at the local, state, and national level known to be knowledgeable about and/or involved in the health manpower field; professional associations; and a wide variety of voluntary and governmental bodies. These discussions resulted in the development of three separate, although closely related, questionnaires designed to accomodate the three basic populations surveyed; the educator, the employer and the employer/educator. Variations of certain pages were developed to adapt the questionnaire to sub-divisions within these populations. Each questionnaire had two parts: an objective section which requested basic information about the program involved and a subjective section designed to elicit personal views in selected areas.

a. The Questionnaires

The educational questionnaire requested the following current (as of October 1, 1973) supply information for each health related educational program offered by the respondent: the number of graduates over the last four years; the current enrollment with number female; and of the first-year class, the number of applicants, capacity and number expected to graduate. Also requested was information on how many graduates of these programs found employment in their field and where.

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* In this overview section, it is impossible to discuss in detail all aspects of the study methodology involved. However, for those interested, the details may be found in the Appendix on Methodology. There one may find such things as mailing lists, the questionnaires, processing and coding procedures, regional maps, and other particulars. In addition, individual sections of the report will provide detailed information on specific methodologies related to the development of that specific aspect of the study.

The educational subjective questions were, in part, directed towards finding out plans for expansion, consolidation or deletion of health occupations programs. Other questions concerned placement methods for graduates, requests from employers regarding graduates and barriers to training and employment in the health field.

The employer questionnaire was designed to provide demand information on current employment and subjective material as it applied to a particular situation. For each occupation employed the statistical information sought as of September 17, 1973 included: current employment, full-time and part-time with number female; the number of full-time and part-time vacancies and new positions; the annual turnover; and perceived projections for 1975 and 1980.

The subjective portion of the employer questionnaire aimed at determining expansion plans in a more definitive way. Opinions on the effects of National Health Insurance and the Commission on Hospitals and Health Care on employment patterns were solicited. Respondents were asked to comment on their hiring practices, trends in employment and the possibility of a Health Job Bank.

For those employers who were also educators of health personnel, a questionnaire was designed which obtained both the basic statistical data on employment and on current educational programs. However, the subjective questions were made more appropriate to an employer situation than to an educational situation.

b. Interviews

As previously noted, over 1,500 institutions and facilities made up the universe surveyed by mailed questionnaire. In addition, in an effort to add more depth to the information gathered from the responses to the mailed questionnaires, a sample group of over 100 employers and educators were personally interviewed either by Institute staff or volunteers provided by agencies related to health manpower*. Those selected were done so in

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*Volunteer interviewers were provided by:

Comprehensive Health Planning "B" agencies of Hartford, Bridgeport, New Haven and Middletown; the New Haven Institute for Allied Health Careers; the Community Renewal Team of Hartford, and community colleges. The questions asked during the interview were the subjective questions of the questionnaire.

a way which ensured a representative sample of types of facilities and programs, geographic location, and nature of ownership (e.g. state, private, profit,non-profit).

Telephone interviews were also conducted once questionnaires began to be returned in an effort to reduce incomplete or questionable responses. The results of these efforts, together with the usual follow-up contacts and some unusually active help from cooperating associations, was the good rate of return indicated in the table following.

RATE OF RETURN FOR INSTITUTIONS SURVEYED

	Number Surveyed	Number of Returns	Percent
Hospitals:			
General Hospitals	39	38	97%
Chronic Disease Hospitals*	7	6	86%
Psychiatric Hospitals	14	12	86%
All Hospitals	60	56	93%
Educational Facilities:			
Higher Education			
Independent Institutions	22	22	100%
Federally Supported Institution	1	1	100%
State University	1	1	100%
State Colleges	4	4	100%
Regional Community Colleges	12	12	100%
State Technical Colleges	4	4	100%
High School Boards of Education**	29	22	76%
Vocational Technical Schools	15	15	100%
Proprietary Schools***	6	4	67%
Other****	4	4	100%
All Educational Institutions	98	89	91%
All Other Employers	1,252	368	29%
All State Agencies*****	137	121	88%

* - Omitted from this figure is St. Joseph's Manor, Trumbull, Ct., as it is combined with a nursing home and included in the category of All Other Employers.

** - Includes only those Boards of Education known to have health related programs as of August 1973.

*** - The likelihood of having health related programs was the basis for selecting proprietary schools to be surveyed.

**** - Includes one industrial facility (dietetic internship), two state departments and one graduate school unaffiliated with an undergraduate institution. (The other two unaffiliated graduate schools did not have programs within the limits of the study.)

***** - Includes all central offices of state agencies related to health manpower and all public school health personnel. It should be noted that the majority of the returns refers to the separate returns for each of the public schools concerned.

The overall rate of return of 41%, while quite high, obscures the fact that there was over a 90% return from the major employers of health personnel and a virtually 100% return from the major educators of health personnel. Further, even in the group with the low response rate, analysis of the respondents indicated they were broadly representative of the employers in that group in terms of size and type of facility and geographic location. As a result, the information reported in the various parts of this total study is felt to be an accurate representation of educational programs and employment in the health field in Connecticut.

c. Reporting

The information collected from the returned questionnaires and during the personal interviews are reported in detail in subsequent sections of this study. Specifically, Section C covers the data, and analysis of the data, related to Health Related Educational Programs. While the study, its format, analysis, and conclusions must be the sole responsibility of the Institute, it should be pointed out that during the analysis phase, and prior to drawing of conclusions and framing of recommendations, the staff met with multiple consultants, associations, planning agencies, and educational groups to review the reported data. The feedback from these meetings materially improved the analysis as well as suggested additional conclusions or recommendations. Section D includes the information on Health Employees in Connecticut.

These individual sections, as well as others to be described, have been prepared as basically individual reports. This overview will include a summary of the major findings of each of the six individual sections. Since the total report constitutes over 400 pages, only this overview section will be generally distributed. However, anyone interested in specific sections of the total report may obtain copies from the Connecticut Institute for Health Manpower, Inc.

2. Supplemental Information

In addition to the basic data on current educational programs and employment and the implications of these for future supply-demand matches, the study approach developed by the Institute involved the development of several other sub-reports. These other reports were designed either to carry out specific parts of the legislative charge as defined in the study's objectives (e.g. to project supply and requirements) or to more adequately define the current health services situation as part of the total information base needed to develop meaningful conclusions and relevant recommendations. It was also felt that many of the additional studies would bring together, in many cases for the first time, information highly useful to individuals responsible for student counselling, program development and evaluation, or health related planning. For example, Section G includes a series of Occupational Profiles. These profiles provide information on the nature and locus of employment, licensure and educational requirements, and educational facilities available in the nation, the Northeast and in Connecticut. Numbers of persons employed, sex and other pertinent data have been included, when available.

To prepare this section of the study, staff used research materials from the Department of Health, Education and Welfare, the U.S. Department of Labor, from studies carried out in Connecticut and other states across the nation, and information provided by professional organizations and various persons professionally active.

Still another section, Section F: State Agencies as Employer/Educator, provides a"first-cut"examination of a largely unrecognized major employer as well as formal and informal trainer of health related presonnel. To our knowledge, no other health manpower study covers the broad spectrum of state agencies in this dual role.

Section E on Supply and Requirements Projections, while recognizing the great difficulty in attempting state projections , particularly in a field as dynamic as health, does provide useful quantitative estimates based on (a) employers' perceptions of budgeted positions available in future years; (b) service utilization increase estimates given population and income changes; and (c) potential impact of national health insurance on services utilization and therefore on the demand for health manpower.

Finally, Section H utilizes data from several sources to provide information for the Northeast Region about the educational programs offered, student enrollment, hospital employment, supply of active workers in selected occupations, and services available.

In total therefore, the study approach involved mailed and personal surveys; extensive consultation; the conduct of six individual, but related substudies; the utilization of primary and secondary data; and exhaustive review of the literature. The product of all this is summarized in the next section of this overview.

II. MAJOR FINDINGS OF THE INDIVIDUAL STUDIES

As the previous section noted, the total report includes detailed sections related to the six major areas of study. In this overview, however, only the major findings have been reported. However, as in the total report, these findings will be discussed in relation to the individual studies.

A. Connecticut Health - Related Educational Programs

- In Connecticut alone, 132 facilities offer formal training in 91 health related careers. The informal on-the-job training conducted in most hospitals, and in other institutions, has not been fully measured, but enough is known to indicate the result is to further swell the total number of facilities offering career training and the number of fields involved by a considerable margin.

- From the CIHMR 1973 publication, Health Careers in Connecticut, 77 institutions were known to offer 246 post-secondary educational programs. The current data reveals 86 institutions offering 282 health programs.

- More private and public colleges, proprietary and vocational schools are starting health career programs. Hospitals and other health care facilities are phasing out health programs and affiliating with educational institutions.

- Although not caused by this trend, the movement towards assumption of the training responsibility by educational institutions has increased points of friction between employers and educational institutions. Specific examples of this would include:

  . Title of educational programs do not fit employer career titles. Confusion among employers and educators results, oftentimes producing overeducated personnel.

  . Employers indicate that graduates of some programs do not possess the usable skills necessary to fulfill job functions.

  . The necessary clinical training provided by health care facilities is not reimbursed by educational institutions, forcing hospitals to finance education through patient charges. Yet other state agencies (e.g. the Commission on Hospitals and Health Care), in attempting to curtail health care costs, are reluctant to accept these costs as justification for rate increases.

- Insufficient attention is given by educational institutions when planning programs involving clinical training to demands for such training places on individual hospitals from other, existing programs.

- On the other hand, the increasing introduction of educational institutions into the health manpower training field has had major beneficial results. Among these are:

  . The increased usage of contractual arrangements between health facilities and educational institutions gives formal recognition to employers as educators. It also provides standardization of training between hospitals.

  . Career mobility is limited by the lack of recognition and standardization of on-the-job training. Joint employer-educational institution programs introduce educational standards which tend to enhance the training of lower-level jobs and therefore worker mobility.

  . Attempts at career ladder concepts are being introduced.

- Cooperation between educational institutions is on the increase. Nevertheless, enrollment in some educational programs remains under-subscribed while in others it is over-subscribed.

- Retention of students trained in Connecticut institutions varies both in terms of specific fields of study and in terms of length of study. In general, however, at the present time, 91.1% of the graduates of programs a year or less in duration remained employed in Connecticut. Of the two year and associate degree graduates, 74.3% found employment in Connecticut. The percent of combined graduates of programs 2 years or less in duration, remaining employed in Connecticut is 86.4%. Fifty and two tenths percent of the four year and baccalaureate graduates found employment in Connecticut; forty-eight and one tenth percent of the Masters and Ph.D. candidates were employed in this state.

- In general, the capacity of presently existing educational programs and the number of students enrolled are sufficient, given present attrition rates and state retention of graduates, to meet expansion and replacement needs of employers. Some notable exceptions however, may be found in several newly opened programs which are still building enrollment and programs for clinical dietitians and clinical psychologists.

- Many facilities, and particularly hospitals, will continue to run on-the-job training programs, in order to fulfill their own needs for entry level workers, to provide instruction in specialty skills, or to offer continuing education opportunities to employers. This existence of on-the-job training has two implications: (1) for many entry level jobs (i.e. nursing aides, physical therapy aides, and dietetic aides) it may be inappropriate to say there is any demand for educational program graduates since the employers can, if necessary, train individuals to match the need and (2) for many individuals, the training received is non-transferrable if employment is desired elsewhere.

B. Health Employment in Connecticut

Employment opportunities for graduates of programs for health occupations were reported by 15 different types of facilities, ranging from general hospitals, nursing homes, etc. to the specialized physical therapy contractors and dental laboratories. These facilities combined, represent over 1,200 different individual employers. This figure excludes the many private physicians' and dentists' offices which also employ significant numbers of personnel.

- Approximately 41,000 people in the 57 different occupations studied are employed in the surveyed facilities. General and V.A. hospitals were the single largest employers with 17,300 people. All the hospitals combined employed 21,900 health careerists. Nursing homes are the second largest single employer with 12,200 people. All extended care facilities employ 13,200. The state, including state hospitals, employs 4,670 or 11.4% of the total health workers reported by all facilities.

- Approximately 68% of all health occupation employees work full-time and 32% work part-time. The ratio of full-time to part-time workers in hospitals is almost identical to that for all facilities combined. However, nursing homes, rest homes, and school infirmaries have a higher than average proportion of part-time workers (about 45%). Several other facilities; psychiatric hospitals, dental labs and local health departments, for example, have a much greater proportion (over 90%) of full-time workers. Notably, only 1.1% of state employees (excluding state hospitals) work part-time.

- For all facilities surveyed, 80.7% of the full-time workers and 95% of the part-time workers were female. With only two exceptions, NHGs - HMOs, and group practices, there was either an equal or greater proportion of females in the part-time workers than in the full-time workers. Of the individual occupations, the nursing group had the highest ratio of part-time to full-time workers.

- The institutions surveyed reported a total of 1,547 job vacancies of all types. This represented a vacancy rate of 4.3%. According to a representative of the Connecticut Hospital Association, a vacancy rate of 3 - 5% is probably the minimum possible at this time. Therefore, it appears that employers, overall, are not experiencing any extreme difficulty in filling positions. However, certain specific types of facilities exhibited relatively high vacancy rates. Both psychiatric and chronic disease hospitals reported average vacancy rates of 9.0% and 7.7%, respectively. The state as an employer also experienced a vacancy rate approximately double that of all facilities combined. Neighborhood health centers and HMO type organizations indicated the highest vacancy rate of 14.1%. School infirmaries (9.7%) and, dental labs and physical therapy groups (6.5%) also indicated vacancy rates above the average. However, upon detailed examination of the data, it is questionable whether these high rates are due to an actual difficulty in hiring, or to recent expansion or other causes. In terms of occupational groups, social services had a higher proportion of vacancies, while radiology had a comparatively low rate.

- The average annual turnover rate for all occupations in all facilities is 22.2%. Facilities exhibiting the highest turnover rates are nursing homes at 30.5%, school infirmaries at 32.9%, voluntary health organizations at 32.5%, and drug clinics at 29.0%. The lowest rates were found in industrial infirmaries, (7.6%) and local health departments (4.2%). Turnover in general hospitals, at 22.5% is approximately equal to the overall average.

- The employers surveyed indicated an increase in employment opportunities ranging between 9.8% and 16% by 1975, and 15.6% and 25.8% by 1980. Specific types of facilities and/or programs show much greater increases, however, including rest homes, dental labs, neighborhood health centers and HMO's, physical therapy groups, and drug clinics.

- In the surveyed facilities, nursing personnel accounted for 75% of the total current employment. Laboratory workers were the next largest group at 4.9%, followed by rehabilitation occupations with 4.3% of all employees. Radiology, social services and dental occupations accounted for between 2.2% and 2.5% each. All other occupations made up the remaining 8.7%.

- The state through its various agencies and facilities, appears to be a significant employer (i.e. employs 20% or more) of several occupations or occupational groups including clinical psychologist;

psychologist; psychiatric aide; social services in general, social worker in particular; rehabilitation therapy in general, occupational therapy (all occupations), and counselor, rehabilitation services in particular.

- A comparison of the occupational distribution of the current work force with the distribution of future employment opportunities as perceived by the employers indicate a slight decrease in the proportion of jobs held by the nursing group (from 75.8% of the current employment opportunities to 72.8% of the projected employment opportunities for 1980). Laboratory, radiology, and the combined groups remain approximately the same. However, rehabilitation social services and dental all show a slight increase in the proportion of future employment: 4.3% to 5.1%, 2.2% to 3.0% and 2.4% to 3.0%, respectively.

By and large, the predominant view of surveyed employers was that the supply of workers available was adequate for their needs. Some concern was expressed about specific fields such as medical record librarians, biomedical equipment technicians, and nuclear medicine technologists. In other fields, such as registered nurse, the employers felt an over supply existed, although they did have difficulty in hiring in these fields for specific shifts or in specific types of facilities (e.g., extended care facilities). Moreover, the employers often expressed the view that the shortage was not of sufficent nurses and nurses aides who were willing to work, but of adequately clinically trained and reliable personnel. Few suggestions of programs which were no longer needed were made by the employers although several hospitals mentioned an oversupply situation existed for radiologic technologists and licensed practical nurses.

C. Supply and Requirement Projections

The temptations will be great to either dismiss the supply-requirements projections entirely on the grounds that the situation is too complex and dynamic to allow accurate predictions of either supply or requirements. Will it be equally tempting to make quick comparisons of the projected numbers and conclude specific programs areas should be cut back or eliminated. Either action would be in error. The projections are not predictions. They are based on

assumptions which may prove wrong. At the same time, the projections provide more information than was previously available and an evaluative framework which, when supplemented by other information, can significantly improve the process within which educational program decision-making takes place. With this in mind, the projections and the analysis of these projections indicated:

- Overall, there is a reasonably close "fit" between what is likely to be required and the supply of trained workers available. This suggests that educational institutions and the Commission are doing an adequate job, in general, of proposing and reviewing new programs and/or the continued need for existing programs.

- Certain fields, however, already appear to be beyond the saturation point just on the basis of present supply and projected state graduates minus normal attrition. These include such diverse occupations as nurse midwife, cytotechnologist, radiologic technician, occupational therapy assistant, recreation therapist, recreation therapy assistant, respiratory therapist, respiratory therapy technician, social worker, and social service aide. In each of these fields, the projected supply exceeds the most liberal requirement estimate by 50 percent or more. Several other fields -- such as health educator and hospital, nursing home, and health care administrator -- are probably near or at the saturation point, particularly since these fields are characterized by substantial interstate mobility of trained workers. However, insufficient quantitative data is available to allow more than that qualitative assessment.

- Other fields would appear presently to be experiencing, or heading toward, a manpower shortage. These include nursing aides, dietitians, psychiatric aides, medical transcriptionists, special education teachers, clinical psychologists, and nuclear medical technologists.

- Still other occupational fields may or may not experience a shortage situation in the next few years, but the evidence is less clear or the field is too new to allow adequate judgments about the rate of adoption of (and subsequent demand for) these workers. In this category, one might include such occupations as nurse practitioners and physician assistants. At the moment, however, these fields appear to be supplied adequately and/or have sufficient people in training to insure either sufficient or surplus numbers to meet expected needs.

- A number of occupational fields exist in which the absence of data absolutely precludes definitive statements. These include: biomedical equipment technician, biological photographer, medical illustrator, and community health aide. However, the relatively small number of employment opportunities for these fields cited in the employer surveys does indicate little total need for programs in these areas.

- Finally, in one occupation, Registered Nurses, the present study confirms to a significant degree, a previous study's conclusions that the time had come to shift from an emphasis on encouraging more graduates per-se to an emphasis on the development of only those programs which further specific educational goals (i.e., to shift the proportion of nursing students receiving a specific level of educational preparation.)

D. State Agencies As Employer-Educator: A Mini Survey

- A survey of nine state agencies indicated these engaged in a surprising amount of activity both as employers and trainers of health related personnel. In fact, even in a limited survey, there was identified 4569.5 full-time equivalents employed by the state in the 68 different health occupation categories included in the total study. This number did not include all the on-the-job training employers, as well as some of the professionals we did not examine in detail. Our mini-survey actually identified 8426.5 full-time equivalents employed by Connecticut state agencies. The additional number representing special education teachers and employees in the Department of Mental Retardation for which recent information was received.

- This total represents at a minimum 11.4% of the state's total employees (40,148.5 FTE) expressed in full-time equivalents.

- The survey responses raised a number of critical issues, particularly related to salary, which levels affected the ability of these agencies to effectively compete for qualified employees; to adequately and quickly respond to changes in service demand or technology; to coordinate programs; and to provide training of recognized high quality at an economical cost which insures the trainee appropropriate mobility within state employment or to employment elsewhere.

- These issues, and the important questions they raise, questions which could not be examined in this mini-survey, prove the need for a much more detailed examination of the role and function of state agencies as part of the system of education/training in Connecticut.

E. Occupational Profiles

- The section related to Occupational Profiles was basically designed to provide individuals such as counselors with the most current information about the various health occupations. Thus, it assembles, in one place, such informational items as: the name of occupation, its definition in terms of function and responsibilities; employment sources and employment statistics (number of workers, sex, age, distribution); licensure, registration and certification requirements; attention to educational requirements; and, available programs. This information is reported for several levels: the nation as a whole, the Northeast, and the State of Connecticut.

- Primarily descriptive in focus, this section was not designed to elicit "major findings" similar to the other parts of the study. Nevertheless, the development of the profiles did further document many of the conclusions reported elsewhere as well as suggested other important points which merit consideration.

- Commonality in the definition of health careers, job titles and functions does not exist between educators and employers. This results in ineffective communication, unrealistic expectations of job availability or worker preparedness, and inconsistent or imcompatible data. This problem is particularly acute in the emergent occupations such as the Physician's Assistant. Ultimately, all of this negatively affects the student.

- The trend toward increasing requirements for formal education or training as a prerequisite for employment or professional recognition makes it increasingly imperative that there exist more structured guidelines outlining the expected responsibilities of the cooperating educational and medical institutions. Similarly, the tremendous growth in health occupational programs, many of which require clinical experience in a real care setting, demonstrate a need for a mechanism for coordinating requests for clinical training positions and the number of such positions available. Finally, the desire for profession or individual upgrading emphasizes the growing interest in, and need for, continuing education and the development of proficiency and equivalency examination.

- Many of the trends observed in the health fields, raise important questions which require extensive study. For example, the trend toward the promotion of licensure, certification, and registration which accompanies the emphasis on more education and professional identity creates problems of reciprocity between states. Professional rigidity and fragmentation may occur as a result of the premature standardization of jobs or professions. Changes in the male or female proportion of an occupation can affect productivity levels and therefore supply and requirement totals. Complicating all of this is the trend in many occupations toward serving new populations in new settings and in relative independence (i.e., as consultants, under contract, or without direct physician supervision).

F. The Northeast Data

Special Act 73-105 called for consideration of problems and employment opportunities in the Northeast area as well as in Connecticut. A major effort was made to respond to this change. Personal contacts were made with key people representing agencies such as Comprehensive Health Planning, Regional Medical Programs, Health Careers Councils, health departments, and education departments in each of the Northeastern states. In addition, contact was made with the Division of Manpower Intelligence, Bureau of Health Manpower Education (DHEW). In the section of the total report related to the Northeast, the pertinent data on studies collected during these contacts have been compiled in a series of tables and bibliographs. These include a tabulation of selected health programs in the Northeast, a listing of training institutions and courses available in each state, data on the number of health professionals

of various types active in the Northeast, and a listing of specialized services offered by hospitals in the Northeast. In fact, these individual pieces of information begin to indicate potential employment sources and competing supply sources. Unfortunately the data available in most states differed widely in terms of both scope and compatability. Indeed, data obtained from different sources about a given state were on occasion contradictory. Thus, without conducting a study similar in magnitude to the present study in each state, definitive answers are impossible. Consequently, the major finding in this area might well be expressed as the need for the conduct of such studies elsewhere. Failing that, the need exists for increased coordination of the New England states' information collection efforts and improved exchange of collected information.

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RECOMMENDATIONS

III. Where Do We Go From Here?

The individual parts of the total study summarized above highlight the problems of coordination, adequate data, supply and demand, mobility, and evaluation which characterize and constrain the education and employment of health personnel in Connecticut and in the nation. At the risk of redundancy, these problems and constraints need to be reemphasized:

- Health education and training require a combination of academic and clinical teaching and experience.

- Coordination between the academic and clinical elements has not been sufficient to assure joint curriculum development for relevance to both education and job requirements; nor have there been official arrangements between educational institutions and clinical facilities for guaranteed number of clinical places for students accepted into academic programs or for the assurance and reimbursement of clinical supervision.

- The growth of the numbers and kinds of formal health programs training for health occupations has been at a rapid rate. Occupations, many of which had been previously taught on-the-job apprentice fashion, are now developing formally and moving into the area of higher education.

- Many of the health occupations require licensing and registration for its practitioners, official approval and certification for its programs.

- Career mobility within health fields has been inconsistent, ofttimes requiring the student to repeat training rather than moving forward from his or her level of knowledge and training.

- Geographic mobility of health students is affected by the level of education, job responsibility and

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salary as well as age, sex and marital status.

- The definitions of health careers, job titles and functions are not commonly held by educator and employer resulting in ineffective communications and unrealistic expectations, both of which negatively affect the student.

- Data on students, programs, jobs, vacancies,--their numbers, kinds, levels, and location--have not been gathered in a consistent fashion by the institutions which educate, train, and employ health personnel. Single studies are ofttimes incompatible to others in specificity of time, or definition of terms.

Knowing the problems and constraints, and Connecticut is not unique in facing these, the main question is what do we do about them? Where do we go from here? The answers to these questions, it would appear, are fairly clear and, in fact, have been stated in many different ways and forms.

First and foremost, if the state is to utilize both existing and yet to be established health education programs and clinical sites in ways which most effectively serve the needs of students, employers, and institutions, there must be established some vehicle for coordinating their various activities. The rationale underlying the need for coordination is so well-recognized that to call for its existence may sound naive. However, less clear and less accepted is the rationale underlying who should be coordinated and in what aspects of their activities and why. Yet without understanding and acceptance of that rationale, recommendations for a specific coordinating mechanism and role cannot be considered from any real perspective.

Basically, the coordinating mechanism (and its functions) to be recommended evolves out of the recognition that increasingly the education for a health profession or a health related career involves a combination of academic courses and clinical training. Both components are equally necessary to the health educational program offered to the student and therefore both should be included in the educational orbit. Moreover, hospitals and other service institutions do more than passively provide clinical training sites. These institutions also initiate a considerable number of formal and informal programs. Indeed, in some such institutions clinical training is a major responsibility. Despite this, there exists no formal recognition of these institutions as essential components of the health career education orbit.

Similarly, in Connecticut, 41 health institutions in addition to high schools, were identified which initiate formal health career education programs but which are not now included in the higher education orbit. Finally, informal programs occurring in state agencies also have no formal linkages with the higher education system. Thus the basic premises underlying our recommendations is that until these groups, and particularly the facilities providing essential clinical training, are brought into the education orbit in some fashion, it will be difficult, if not impossible, to achieve the level of

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coordination required for quality programs which are available, accessable and economical.

Second, effective functioning requires true intersystem coordination. That is, all educational institutions, as defined above, involved in program planning must engage in an organized system of current, reliable, and shared information. They must engage also in a continuous examination of programs conducted within the system as a whole and in individual institutions. Efforts in this direction have been started with such things as the Commission's regional grouping of institutions of higher education, some of the consortiums being developed by individual schools, and the joint or shared programs conducted in specific professional areas. But much more needs to be done both in the area of joint planning of curriculum for health programs and the sharing of faculty and facility resources if the concepts of core-curriculum-clusters and articulated career ladders are to become more than rhetoric. Much more needs to be done in the way of examination of the appropriateness of location of some educational programs and the assessment of needs for new or different educational programs. Thus, the second premise underlying our recommendations is that true coordination can't be based on piece-meal evidence inadequately examined on an infrequent basis. It requires an on-going method of information, analysis, and evaluation which is adequately supported.

We recommend therefore that:

1. The Commission should appoint, or promote the formation of an official Health Manpower Committee at the statewide level. Membership of the Committee should include representatives from major state agencies responsible for the planning of data collection related to employment and training of health manpower; educational and employer institutions and facilities; and, health professions.

   The functions of this Committee should include:

   a. The continuing study of problems involved in, and recommendations related to, improved information exchange and identification of information needs;

   b. The development of effective working relationships with educational, professional, or CHP agencies necessary to monitor the need for specific types of manpower, educational programs, or collaborative relationships in specific geographic areas;

   c. The recommendation to the Commission, and others, of the need for such programs or coordinating activities; and

   d. The conduct of specific studies about emerging occupations: utilization, organizational, and financial trends affecting the employment or productivity of health manpower, and barriers

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to effective use of manpower.

In short, the Committee's function would be to develop both short and long range plans for health manpower education to help guide the Commission's resource allocation decisions. The starting point for such a Committee would be the information presented in this total study. For reasons detailed in the Projections section, it would be premature to recommend, at this time, to either the Commission or to such a Health Manpower Committee specific actions which they might take with regard to individual educational programs. However, it would not be premature to suggest some of the more pressing areas or concerns which should be addressed on a high priority basis.

a. The need for effective, well-organized programs of continuing education for allied health professionals has become increasingly apparent to assure continued competency of health personnel. It is especially necessary because of the accelerating pace of technological developments within the allied health professions and services. Thus, a real need exists to identify sources of continuing education and to develop comprehensive, periodic listings of such sources for distribution throughout the state. Further, where gaps or duplications exist, efforts should be made to bring out the desired additions or deletions.

b. For some time, educators and administrators have argued that health career training should be based on "core" experiences with frequent opportunity for a choice of specialty area. The organization of technical training by clusters of related occupations which prepared dual-specialists or even tri-specialists would avoid overly narrow and restricted training. Yet, despite the long-time existence of this idea, the obvious advantages to both students and educational institutions, and its actual partial implementation in some areas, relatively little is being done in this regard in Connecticut. Thus, the need exists to examine the various definitions of the core concept, to identify and evaluate existing attempts in Connecticut and elsewhere, and to recommend both the area most susceptible to this approach and guidelines to aid those institutions which might wish to develop the core program approach.

c. The ability to project either the supply of, or demand for, a number of emerging or materially changing occupations and professions is sharply limited by the absence of data on their function, roles, or acceptance. Therefore, educational planning in these areas must await the development of position papers assessing the potential impact of various financial, organizational, and regulatory trends on these fields and the implications for educational program content.

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d. Finally, it should be emphasized that the increasing trend towards the use of both educational institutions and clinical facilities in the conduct of health education and training programs creates the need to do two things immediately. First, develop a statewide data bank which maintains on a current basis an inventory of the number of clinical training opportunities available in specific facilities. Second, examine the cost implications for the clinical sites of providing such clinical training opportunities and to recommend, if appropriate, state or collegiate reimbursement of such costs.

2. Because the magnitude of the job is so great and because many of the problems involved must be related to local concerns, it is recommended that there be established also Regional Health Manpower Committees composed of representatives of the same groups as in the Statewide Committee. These regional bodies might be established along the geographic lines which make up the Commission's present regional planning bodies. Alternatively, the regions might be established to coexist with the Comprehensive Health Planning Areas in the state. In any case, the purposes for which these Regional Health Manpower Committees would be founded would include:

   a. To develop area health care manpower resources to meet community health service needs.

   b. To assist health manpower education in becoming more responsive to the changing demands upon the health care delivery system.

   c. To integrate appropriate clinical experience with basic and continuing education for health manpower.

   d. To improve the cost-effectiveness of health manpower education by discouraging ineffective programs, avoiding duplicative efforts and increasing the efficiency of training programs.

   e. To recruit and train local citizens in health careers with particular emphasis on the minority and disadvantaged populations.

   f. To support health education activities and programs for the general public.

   g. To encourage consumer participation in the development and evaluation of health education and health delivery programs so that both will respond sensitively to human needs.

   h. To identify and develop mechanisms for the implementation of continuing education and inservice training programs as an integrated continuum of basic education for health manpower.

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i. To encourage and support an attractive environment which will attract and retain health manpower in urban and rural communities which are currently underserved.

3. Explicit in the above recommendations is the need for certain supportative activities if the Committees are to perform the indicated functions. Not the least of these is the need for the development of an ongoing health information system. The information system recommended here is not the same as the management information system currently being developed by the Commission although the two might be combined in actual operation. The health information system would be concerned primarily with maintaining a comparable and comprehensive data base on such things as student enrollment, characteristics of educational programs, supplies of personnel, and other information necessary to project or assess current and future supplies and requirements. In addition, such a system, where fully implemented, should have the ability to provide data on job opportunities.

The recommended information system/job bank is vital to informed educational planning and coordination of educational employment opportunities. Perhaps even more important, funds can be identified to get it started. In the course of this study, over $800,000 was identified in various licensure and certification fees which could be specifically earmarked for the collection and reporting of supply data. Moreover, the National Center for Health Statistics is developing a cooperative health statistics system. This system would comprise a national network of state, local and regional (multi-state) health statistics centers with a strong, continuing and flexible capacity to develop and make available a wide range of health and vital data to meet basic needs on all levels. Uniformity of methods would be coordinated by the National Center for Health Statistics. During stage 1 participating states will be responsible for compiling and maintaining, from the licensure data currently being collected, an inventory providing certain essential basic information-- numbers, distributions and age data for the majority of licensed health manpower personnel.

It is recommended that the Commission immediately appoint a Committee to recommend the contents and organization of a Health Information System; to investigate the potential use of presently allocated state funds for support of such a system; and to request consideration by the National Center for Health Statistics of HEW that Connecticut be designated a participating state in the development of that system, with special encouragement toward a regional center.

4. A second supportative activity required if the Committees are to effectively function in the conduct of special studies. Many of the specific studies needed have been indicated. However, time and circumstances will suggest other, perhaps more vital study needs. Therefore, it is recommended that, either as a subcommittee of the recommended Health Manpower Committee or as a

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separate entity, there be established a Research Advisory Committee. This Committee would:

a. Identify and promote necessary health related research needs, particularly those related to the identication or evaluation of changes in the health care delivery system and the impact of those changes on health manpower;

b. Encourage inter-institutional and interdisciplinary research; and

c. Recommend to the Health Manpower Committee and to the Commission the distribution of state funds available to support such research activities.

5. Included in the recommended functions for the Research Advisory Committee was the recognition of the need for funds to support and promote needed educational research and/or interdisciplinary and interinstitutional studies. To provide such funds, a policy course suggested in the 1971 Arthur D. Little report to the Commission on Higher Education recommended that "a fund be appropriated annually in an amount equal to 1% of the operating budgets of the (Commission's constituent sections) in order to permit the Commission on Higher Education to mount appropriate research and evaluation studies", including those specific to the healthmanpower field. It should be noted that recommendations within the current Commission's Master Plan include research support also.

6. Finally, it is recommended that the Commission immediately begin discussions with other groups within Connecticut and in the New England area, such as the New England Commission for Higher Education, for the express purpose of improving the compatability of the data base collected in each state. The ultimate goal of such discussions should be the establishment of an Interstate Health Manpower Council composed of representatives from each of the Northeast states and the academic and clinical components of health manpower education in these states.

COORDINATION SERIES

EDUCATION INTER-SYSTEM

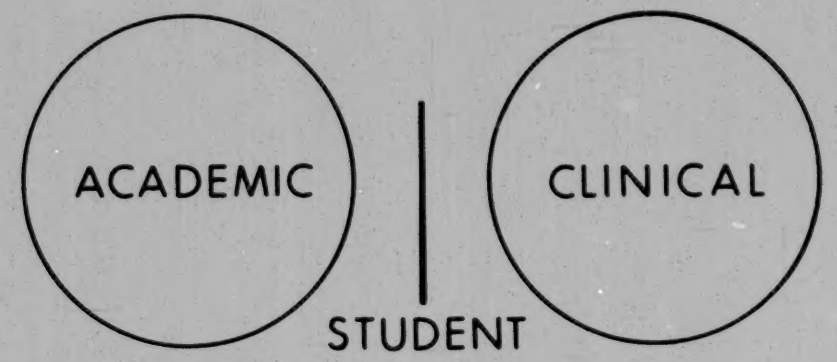
- HIGH SCHOOLS
- VOCATIONAL-TECHNICAL
- STATE TECHNICAL COLLEGES
- 2-YR. COLLEGES — PUBLIC AND PRIVATE
- 4-YR. COLLEGES — PUBLIC AND PRIVATE
- UNIVERSITIES — PUBLIC AND PRIVATE
- PROPRIETARY SCHOOLS

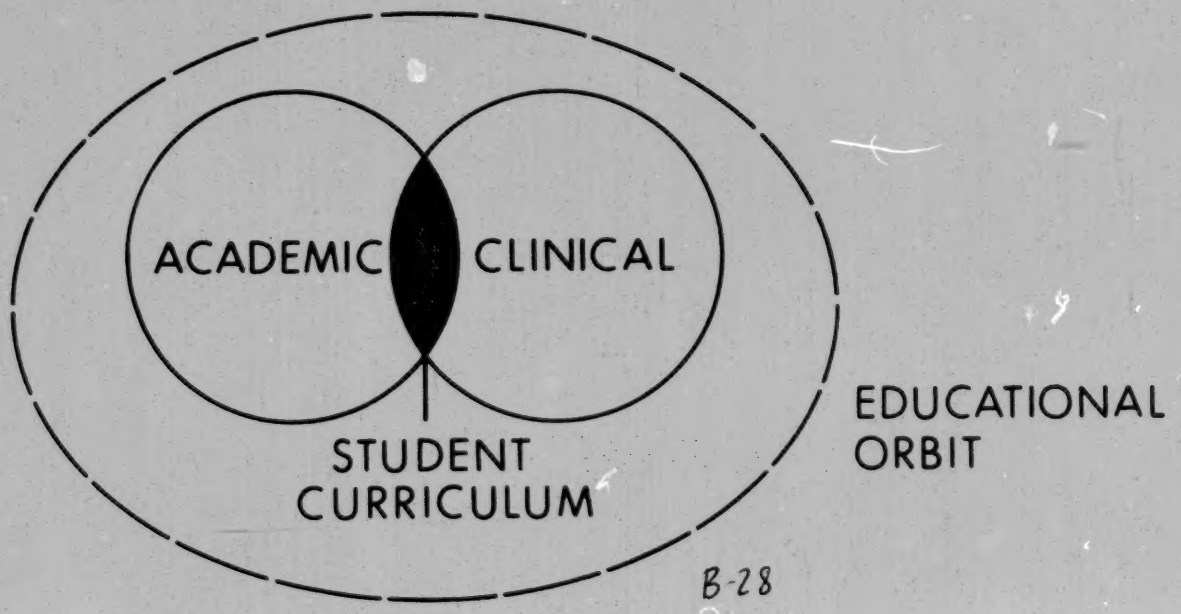
HOSPITALS?
STATE AGENCIES?

COORDINATION SERIES

COORDINATION SERIES

HEALTH PROGRAM = ACADEMIC + CLINICAL





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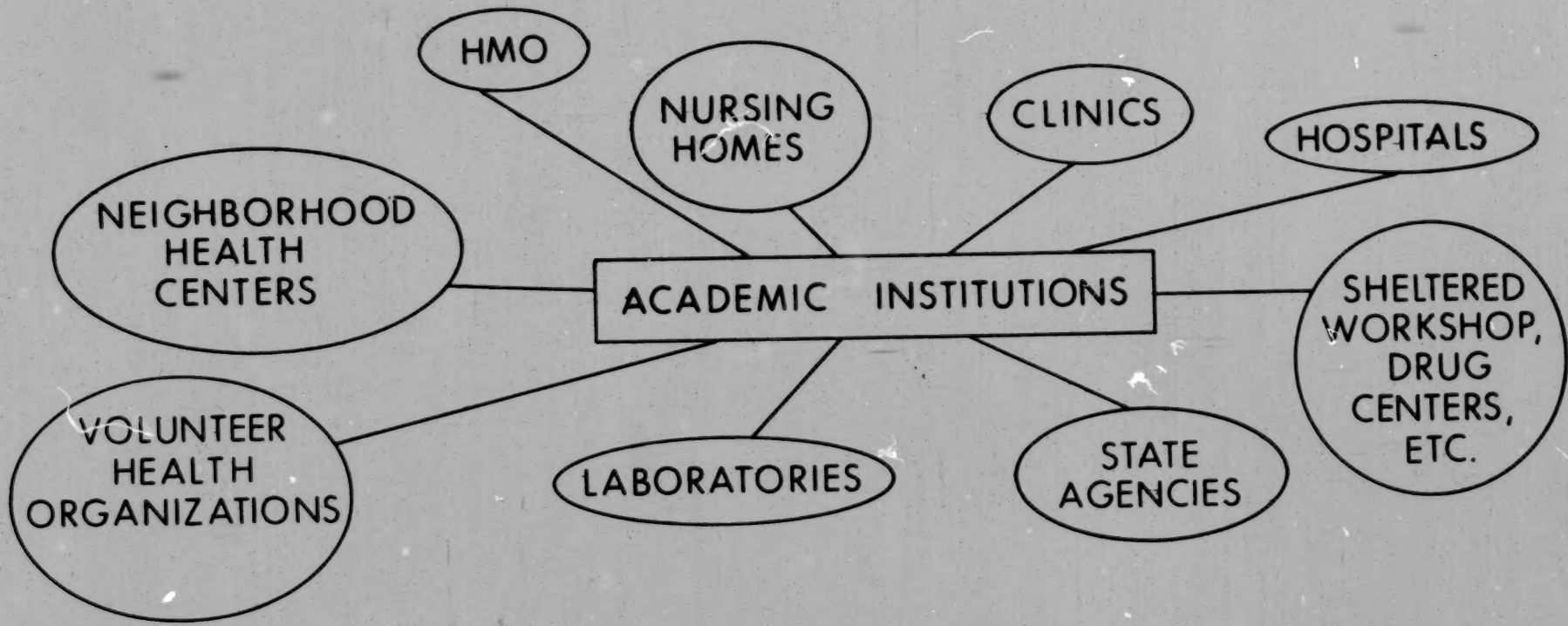
COORDINATION SERIES

CLINICAL POOL



S.A. 73-105 – HEALTH MANPOWER STUDY

NUMBERS
KINDS
LEVELS
PLACES

FOR

- PERSONS (STUDENTS)
- PROGRAMS (EDUCATION)
- PLACEMENT (EMPLOYMENT)

IN *CONNECTICUT*
IN *NORTHEAST*

NOW AND IN THE *FUTURE*

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CONNECTICUT EDUCATION/EMPLOYMENT STUDY FOR HEALTH MANPOWER

Section C. CONNECTICUT HEALTH-RELATED EDUCATIONAL PROGRAMS

Introduction, Methodology and Findings C-1

Summary Tables from Part I of Questionnaire with Narration C-12

Enrollment and Graduates of Programs by Occupations and Groups

Summary Tables from Part II of Questionnaire with Narration C-48

Educational Institutions and Hospital Educational Responses

Listing of Health Programs by School and Program Affiliation Arrangement: Educational Institutions/Health Care Facility 1

Appendix A - Follow-up Data on Graduates, Tables A, B, C C-66

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INTRODUCTION

Education of the health professions represents a complex and far reaching undertaking due to the specialized nature of health careers. Education, in most instances, must involve both didactic training and clinical experience. To talk of health careers education, therefore, is to incorporate educational institutions as well as health care facilities. Additionally, students in the health area are required to prepare for a broad spectrum of facilities: hospitals, extended care facilities, voluntary health organizations, school and industrial infirmaries, visiting nurse associations, health maintenance organizations, neighborhood health centers, health departments, in and out patient clinics, private practices and offices, clinical laboratories, dental laboratories, and emergency medical services. Training which focuses on meeting the needs of one component is limiting both to the student and the employer.

Hospitals, being the employer of the largest variety of health personnel, can provide a basis for looking at health personnel. The United States Department of Labor identified some 238 job descriptions found within a hospital in Job Descriptions and Organizational Analysis for Hospitals an Related Health Services.[1] This list includes not only direct patient care professions, but hospital communications, data processing, financial management, clerical, personnel, medical library, plant operations, maintenance, housekeeping and laundry. As of 1970, approximately 3.7 million people were engaged in health services, 2.4 million were employed in hospitals.[2] The highly trained elements of doctors, dentists and nurses which are typically considered health personnel, comprise little more than one third of the total health service personnel. The remaining two thirds are composed of practical nurses, attendants and nursing aides; x-ray and laboratory personnel, rehabilitative staff, and other specialties, as well as supportive personnel: record keepers, food service, administration, etc.[3] Many of these positions require on-the-job training while others either do receive or could receive formalized training.

In Connecticut alone, 132 facilities offer formal training in 91 health related careers. The informal, on-the-job training done in most hospitals and in other institutions cannot be fully measured, so considerably more health facilities offer career training and in other areas than those reported.

In the past, hospitals provided the training for their health personnel, both formally and informally. Gradually, educational institutions are taking over the initiatives, in cooperation with clinical settings. An illustration of this phenomenon is evidenced by Hartford Hospital and Manchester Community College. Manchester Community College has recently started to provide academic background for the surgical technician and medical laboratory technician programs, with Hartford Hospital providing the clinical training. The phasing out of the diploma nursing program by Hartford Hospital with an eye towards affiliating with Manchester and the University of Hartford is unique in this state.

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Where in Connecticut are health programs located? In summary, of the higher education institutions, 29 offer 141 health programs; fourteen post secondary schools offer 21 courses of study; forty-six high schools give pre-technical training and entry-level training in 5 careers; and at least two of the state departments offer on-the-job training, career-advancement, and formal classroom instructions.

Surveying Educators

To answer the questions about over-and-under supplies in Connecticut of health personnel for the Commission for Higher Education, it was necessary to survey all educators. Although the relevance for the Commission for Higher Education lies in the state-supported schools, an inaccurate picture would result from ignoring non-public facilities. An extensive search was made for previously unidentified health courses, as well as new programs, netting 26 new programs in 22 more careers than was originally known.[4]

An exhaustive effort was made to achieve a 100% return rate of the 44 questionnaires mailed to higher educational institutions. All 44 were returned. Responses were received from all 15 Vocational-Technical schools. Four of 6 proprietary schools surveyed responded. Twenty-nine questionnaires sent to the Boards of Education representing 42 high schools, netted 22 returns. All 60 hospitals received educational questionnaires of which 49 were returned.

Another aspect of surveying was personal interviews at hospitals, extended care facilities and educational institutions. All hospitals were interviewed as well as a sampling of 24 educational institutions representing higher education, 2 and 4 year public and private and vocational-technical. In the cases of University of Connecticut, University of Bridgeport, and Yale University, where many schools have health programs, several questionnaires were sent and interviews were arranged.

Methodology

As explained in the Methodology chapter, all questionnaires were examined in detail, numbered and coded. Responses were tabulated according to individual occupations. Several types of data were requested: the number of past graduates, current enrollment, number of females, number of future graduates, the capacity of the first year class, number of applicants to first

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year class, and the percent of the first year class expected to graduate. In addition, information on the placement of past graduates was sought. Wherever possible, the institution was requested to indicate how many students had found employment within the state or outside the state, as well as the average percent of the graduates who did not look for employment and who did not find employment. Thus, general basic indications were given as to difficulty within the occupations in finding jobs, as to trends toward out-migration and as to the proportion of graduates not entering the labor force. These data were summarized as to one year programs, two year programs, one and two year programs, four year and baccalaureate programs, and post baccalaureate degrees. (See Table B, Appendix A)

Because these figures, at this time, were not properly substantiated, and also comparable rates for in-migration were not available, these data were not used in computing supply figures for the state.

Some of the information requested from the educational programs was not available; in certain instances adjustments were made. In the case of the diploma nursing programs, where only 11 of the 16 responded, secondary data from the National League of Nursing, 1971 [5] was computed into the past graduate figures, as well as the future capacity. If a program is known to be closing, graduates have been computed as zero, as of the closing date. If programs indicated an increase in capacity in the subjective questions or in the capacity column, the number of graduates expected has been increased accordingly. In few cases was a decrease in capacity or enrollment indicated.

Where new programs were being added, and enrollment or capacity figures were given, the future graduates were based on these data.

Certain assumptions were made in order to project the future graduates of health programs:

- that the size of the programs (enrollment and capacity) would remain constant unless noted differently. (Enrollment and capacity as indicated by individual programs.) Therefore graduates in the years from 75-80, (one-year programs), 76-80 (two-year programs), or 78-80 (four-year programs), would remain constant.

- that no new programs would start except those indicated

- that programs which were markedly undersubscribed would remain undersubscribed and programs that were markedly oversubscribed would fall back within capacity.

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- that when future enrollment is not known, and capacity is not known, the program will graduate the same number as the average of the last four years.

Extrapolation for missing data was not done in this section. The figures reported here are as they were compiled from the raw data.

When projecting the number of graduates of a two year program, the percent of the first year class expected to graduate (as given by the institution) was taken of the first year class enrollment; when projecting the graduates of a four year class, the percentage (as given by the institution) was taken of the first and second year enrollments.

These figures therefore, do not purport to be entirely accurate, but to provide a feeling of the future. It is expected that programs will not remain exactly constant, some will close and new ones will open. The enrollment and number of graduates will fluctuate. None of this information is available at this point in time, so these figures are based on realistic assumptions and current data. These data will serve the function, however, of saying "it appears that there is the possibility that too many or too few professionals will be graduated from a particular program or programs, if programs continue as they are presently. This area deserves further detailed study on distribution, future employment, possible alternatives, and consequences of making changes."

Educational Institutions

The information in the 1973 Directory of Connecticut Education and Training Programs in the Health Occupations, produced by the Connecticut Institute for Health Manpower Resources, was the original basis for the compilation of institutions offering health education programs. Institutions to be surveyed were located through the lists of educational institutions as provided by the Commission for Higher Education, and the State Board of Education. All surveyed educational institutions were asked to list and describe their courses of study in the health field. Subsequently changes, additions and deletions amplified the extent and number of schools and programs to produce the final listing of health programs, as included in this report.

The institute has made copies of the 1973 publication available to counselors, libraries, and private citizens. The overwhelming demand for this publication has depleted present supplies; therefore it is hoped that more current information will be made available based on the investigation that went into this study.

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Complications

The complexity of education in the health fields cannot be overly emphasized. Many difficulties were encountered throughout several phases of the study that are unique to health education. One observation from employers that the curricula do not match the needed skills required by the employers, has many ramifications. In essence, there seems to be a lack of uniformity between program titles and curricula among schools and employers. When different educators are training similar personnel under dissimilar titles, a meaningful compilation of courses of study requires a study of curricula and study intent. Confusion by the student and the employer results from lack of uniformity. Not only are programs given various titles by educators, but these titles are foreign to employers. An entry level position in a facility, in many cases, requires certain knowledge, not certain degree titles.

Health care institutional training poses another problem in the compilation of educational programs. Much specialty training, continuing education and on-the-job training is completed within the institution. Oftentimes, no formal credential is earned for this experience. Specialty training, particularly for nurses, is hard to define and identify. Among health institutions, frequently, credit is not given from one institution to another for in-house training. In order to provide better patient care, hospitals and other facilities offer continuing education for their employees.

A further complication is on-the-job training. Entry level positions may require supervised training; consequently, facilities meet their own needs for trained personnel. Such positions as nursing aide, psychiatric aide, EEG technician, EKG technician, dietetic aide, physical therapy and rehabilitation aides, and others are filled by untrained personnel who then receive instruction. It is appropriate to say that these personnel have received education to qualify them for certain jobs. However, this informal training is difficult to identify. In addition, some institutions do not recognize other programs. It is conceivable that a person with past experience as a dietetic aide would be re-trained when joining a new facility. This duplication of efforts seems wasteful, and yet each facility has its own peculiarities in functioning which require more explanation than just orientation.

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Initiation of New Programs

Once a decision to set up a new program in health has been made, several considerations enter into the progress of the undertaking. Not only must the program gain the approval of the Commission for Higher Education, but also meet the approval of other regulating organizations.

Professional organizations in the United States have been initiated for over 50 health occupations. For many occupations, such as occupational therapist, certified laboratory assistant, medical technologist, radiologic technologist, etc., certification by the accrediting professional society indicates an achievement of certain requirements. Many employing institutions, for a number of reasons, prefer personnel to be certified. In order to meet certification standards, students must complete an accredited program. In order for a program to be accredited, a school must meet the requirements of the professional society. Therefore, in developing curricula objectives in hiring staff and making clinical arrangements, accrediting agencies and their requirements must be considered.

Another consideration in setting up new programs is a clinical setting arrangement. Since many of the occupations require, or are enhanced by practical experience with education, an appropriate setting must be found and mutual agreements must be made. With hospitals beginning to phase out their education and looking toward colleges and universities, these facilities would be logical for clinical sites. However, the hospital had designed the program to meet its own specific needs. In order to continue to meet these needs, a solid coordination is needed between educational institution and health care institution. Some difficulty can be experienced in this regard.

The use of contractual agreements between schools and hospitals is becoming more frequent. In general, each institution financially supports its own aspect of the program. The means of the hospital to support training lie in patient charges. It is becoming increasingly more difficult to finance education, the hospitals say, so that in the future, hospitals may require financial support in exchange for clinical training. The ramifications could be great: more money will be needed to support a health program, consequently tuition could increase, creating a new barrier for students. These caveats are not included to discourage the consideration and initiation of new programs, but to make the complexity of the health programs known. Suggestions for alternatives to new programs, may be more feasible, as follows.

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Considerations

In instances where future shortages in the health population could exist, many alternatives for dealing with the problem are open, as well as for future over-supplies. The most obvious solutions appear to be the most difficult, those of opening new programs and closing others. Consider some possibilities:

1. Enrollment in some educational programs, particularly new courses, is below the maximum capacity the institution could effectively instruct, i.e., nuclear medicine technologist, health care administrator, medical transcriptionist, environmental health technician, etc. A shortage in the future supply of personnel could be accomodated by increasing enrollment through the use of recruitment techniques.

2. Capacity for enrollment could be increased in existing programs; more faculty could be hired; clinical affiliations could be increased by utilizing extended care facilities, laboratories, health departments, neighborhood health centers, health maintenance organizations, voluntary health agencies, etc.; facilities and faculty could be shared between institutions; efficiency may be increased by initiating core curriculum.

3. Focus in existing programs could be changed from specialized services to general, allowing students to be prepared for a variety of functions, or to specialize after receiving basic training. An examination of curricula would be necessary for implementation. The health services occupations and allied health occupations programs in the vocational-technical schools and high schools which provide basic knowledge for entry-level positions such as nursing aide, dietetic aide, housekeeping aide, medical assistant, etc., serve as a fundamental example. This system would allow flexibility within the educational programs to meet changing needs for specific occupations within a field.

4. The concept of career ladder education would facilitate training within groups of occupations. If the Manchester and Tunxis Community Colleges arrangement for dental assistants and dental hygienists is used as an example, the ease with which more highly trained people can be educated is seen. Persons with one year's training could achieve the status of the Associate Degree by training one additional year, as compared to two complete years.

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5. Public Act Number 140 provides funds for independent colleges for the use of programs, facilities, and services. (See Public Act in Appendix B) The law is not specifically limited to one means of utilization; many alternatives could be possible such as funding entire schools and programs or specific courses and facilities, or by giving aid to students. The obvious method of utilization would be to contract with private colleges in order to make more programs available to Connecticut students. In instances where a private college offers a unique program in health, this system could possibly increase enrollment, rather than initiating a new program in a state institution. In some cases, private institutions have excellent laboratories, libraries or specialized facilities, which would be beneficial to state institution programs and students. Similarly, financial aid to Connecticut students would enable more students to participate in unique health programs in private colleges by helping to meet the high tuition costs. According to the definition of independent colleges in the act, it seems that hospital schools are not included. This wealth of facilities and educators, it would seem, could contribute innumerable services to health education, and would benefit from financial contracts.

FINDINGS

-Both educational institutions and health care facilities initiate health occupation programs. Programs for health occupations are composed of two ingredients - academic and clinical experiences. Hospitals function in three broad educational areas:

- .initiate programs including didactic courses and clinical training
- .provide clinical sites for programs initiated by educational institutions
- .provide in-house training, continuing education and specialty skill instruction to employees.

-From the publication produced by CIHMR in 1973, HEALTH CAREERS IN CONNECTICUT, 77 institutions were known to offer 246 post-secondary educational programs. New data reveals 86 institutions offering 282 health programs. Study of these data reveal a trend towards an increased number of programs.

- .thirty-six percent of the educational institutions are considering expansion or additions of health programs (68 new programs, courses or expansions).
- .three percent of the institutions are considering deletion or consolidation of health programs
- .seventy-five percent of the two year public colleges mentioned the possibility of expansion or addition of health programs.

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-Currently enrolled in the fifty-five programs discussed, plus medical office students, are 11,159 students. The majority of all those studying in these health programs are women (82%).

-Some reasons for planning new programs in health given by educational institutions were:

- nearby hospital program was shutting down (i.e., diploma nursing school)
- evidence of need for an occupation in the local area.

-A growing trend for an overview program of health occupations is indicated by interest expressed by high schools, vocational technical schools and community colleges.

-In the Nursing area, seventeen new or expanded programs in Connecticut educational institutions are under consideration, from the nursing aide to the master's degree level. Eight diploma nursing schools are in various stages of closing.

-Courses or programs not presently offered in Connecticut, but being considered for addition include the bio-electronic technician, medical illustrator and biological photographer.

-Forty health care facilities offer 110 health programs for 25 different career possibilities.

-Three-quarters of the health care facilities responding state that the purpose for originating training programs was to fulfill hospital need for personnel. Other purposes included providing an educational resource in the community and providing trained manpower.

-When asked about hiring policies:

- nineteen of thirty-four health care institutions responding, give preference to graduates of their own programs who are willing to stay
- three respondents state that all applicants receive equal consideration.

-Eleven health care facilities are closing down educational programs and four new health programs are being planned.

-Twice as many health care facility respondents would be willing to cooperate with educational institutions for the latter to provide academic portion of the program (24/34 were willing, 12/34 were not).

- of those 12 respondents who would not be willing to have educational institutions provide the academic portion of the program, half cited the reason that the hospital felt the need to train specifically for that institution.

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-Health care facilities provide a clinical site for students enrolled in educational institutions to receive required experience, but this necessary clinical training is not reimbursed by the educational facility.

-Contractual arrangements between health facilities and educational facilities give formal recognition to employers as educators. It also provides standardization of training between hospitals. This type of arrangement in on the increase.

-Barriers to education and training mentioned by health care and educationl facilities included:

- economic factors, i.e., program expenses
- no opportunity for job mobility for many occupations
- lack of employer understanding of available training and utilization of skills
- oversupply of manpower or lack of available positions for certain occupations.

-Some educational institutions have formal placement services, some have informal services and some schools use both methods of placement for their graduates. The range of recorded data varies considerably, from meager to plentiful. Requests from employers regarding graduates of health programs were received frequently or occasionally by 53 of the 117 respondents.

-Hospitals and extended care facilities are the most frequent employers to contact educational institutions for potential employees.

-Attempts at career ladder concepts are being introduced. Agreements between Manchester and Tunxis Community Colleges and Manchester, Hartford Hospital and University of Hartford are being negotiated.

-Cooperation among education/training institutions is on the increase. Eli Whitney Regional Vocational Technical School and South Central Community College have a working affiliation, as do Northwestern Community College and Central Connecticut State College. Some Hartford hospitals are discussing possibilities of cooperative sponsorship for in-service training programs which are given to employees.

HEALTH-RELATED PROGRAMS IN CONNECTICUT INSTITUTIONS

TRAINING INSTITUTIONS	HEALTH PROGRAMS: Number of institutions having health programs	Number of health programs	Number of careers
FOUR YEAR PUBLIC	5	36	26
FOUR YEAR PRIVATE	9	50	42
TWO YEAR PRIVATE	2	4	4
TWO YEAR PUBLIC	12	50	25
VOCATIONAL-TECHNICAL	12	16	4
PROPRIETARY SCHOOLS	2	5	3
HIGH SCHOOLS	46	52	5
HEALTH CARE FACILITIES	40	110	25
OTHER	4	11	11
TOTAL	132	334	91

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ADMINISTRATION

Health Care and Services Administration courses are offered at four sites within Connecticut. An Associate Degree is available from Housatonic Community College, a Bachelor of Science Degree is received from Quinnipiac College, and a Master of Public Health Degree is awarded by Yale University. The graduates of Yale University are most qualified to enter the field as Hospital Administrator. The baccalaureate and associate programs provide preparation for hospital management. Since the State of Connecticut requires licensure for Nursing Home Administrators, aspirants are required to take college course and a one year internship within a nursing home. The courses offered at the University of Connecticut meet the state requirement.

Both the Quinnipiac and Housatonic programs are new and have not, as yet, awarded any degrees. (See Table 1). The current enrollment at Quinnipiac is 29, with the first graduates expected in 1975. The University of Connecticut has educated 430 Nursing Home Administrators in the past four years. Licensure became required in this state in 1971. The program at the University of Connecticut was geared to meet the demand requirements. Now that all nursing homes have licensed administrators employed, the demand will greatly decrease. For this reason, the program has now broadened to health care administration and current enrollment stands at 37. Of the total enrollment, 39% are female. Seventy-three percent of all administrative graduates were nursing home administrators. By 1980, it is expected that only 55 percent of the graduating administration majors, will be health care or service administrators. By 1980, if these programs educate at a constant rate, approximately 364 graduates will have received degrees. Based on the past performance of graduates, it is expected that 90.7 percent will enter the labor force in Connecticut, or 330 people. (See Table C).

If the demand for health care administrators were to exceed the current production rate, these programs should be able to accommodate more students. According to institutional sources, there is a capacity for 110 students for every class. At present, these programs are operating at 60 percent capacity, due to a small number of applicants.

The Master's program of Health Service Administrator at Yale University has graduated 153 from its program in the last four years. There are currently 105 enrolled, 51 percent of whom are women. If this program remains constant, we expect some 300 students to have graduated by 1980. It should be noted that many students hail from out of state, and will migrate out of state so the number who will seek employment in Connecticut will be limited. For every opening in the first year class, there are six applicants.

The University of Connecticut has in the past offered a degree in health systems analysis and planning. Thirty-two students completed this course over the last four years. Because of financial limitations, this program has been temporarily discontinued, but it is hoped that it may be reactivated in the future.

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GRADUATE AND ENROLLMENT DATA FROM RESPONSES OF EDUCATORS TO CHE STUDY

(CIHMR QUESTIONNAIRE OCT. 1973)

TABLE 1

	Current							Perceived Projections		
Occupation / Administration	# known Conn. Programs	# questionnaire Responses	Total Grads 70-73	Total Enrollment 9/73	% Female	# Applicants / capacity of 1st yr.class	% expected to grad. from 1st yr. class	Total grads 74-5	74-80	# of Planned Programs
Health Care/ Services Administrator	3	3	430	66	39.4	63/110	86	90	364	0
Hospital Administration	1	1	153	105	50.5	245/40	98	103	298	0
Total	4	4	583	171	46.2	308/150		193	662	0

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DENTAL GROUP

The Dental Auxiliary Group, excluding dentists, encompasses dental hygienists, assistants, technicians and laboratory technicians. As explained in the occupational profiles, state statute limits the functions of dental auxiliaries. During the past four years, 505 persons have graduated from educational programs. Of the more than 305 enrolled, 89.2% are female. By 1980, if programs were to progress at the same rate, 1,680 will have graduated into the dental auxiliary field. (See Table 2).

DENTAL HYGIENISTS

The minimum educational requirement for licensure in this state is the associate degree. The Baccalaureate degree is also offered. At this time, the University of Bridgeport is the only institution of higher education to offer these programs. Tunxis Community College plans to implement a career ladder program with Manchester Community College in the fall of 1974. Manchester Community College will train 1 year dental assistants who can, upon completion, transfer to Tunxis for the second year in dental hygiene and the Associate degree.

At the University of Bridgeport, the Associate degree program seems far more popular. Between 1970 and 1973, 213 students graduated with an associate degree, 13 graduated with the bachelor degree. Of the current enrollment in the associate program, all are female. If the current capacity remains constant, we expect 699 graduates from the two-year program and 34 from the first-year. For every opening in the first year class, there are 49 applicants for the two year program.

With the addition of the new program at Tunxis, approximately 100 more dental hygienists will matriculate, based on current estimates of capacity.

Although institutional sources did not supply past graduate behavior information, based on the graduate behavior of other A.S. programs, about 74.3% of the total 699 will enter the labor force in Connecticut, or 519 graduates. (See Table B).

The University of Bridgeport also offers a bachelor's degree in dental hygiene education. The graduate is qualified to be a dental hygienist and a dental hygiene educator.

DENTAL ASSISTANT

Currently, there are six operating programs for dental assistants in Connecticut. Four of these post-secondary programs are at regional vocational technical schools; one program is located in a proprietary school for women. The last program is a new concept being offered at South Central Community College. In cooperation with the one

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year program at Eli Whitney Regional Vocational Technical School, South Central Community College offers credit for the first year at Eli Whitney and gives a second year leading to the Associate in Science Degree. In terms of supply, this function does not contribute new assistants to the field, but rather, more educated applicants. The new program to start in the fall, 1974, at Manchester Community College will be of 15 months duration, affiliated with the UCONN Medical-Dental School and Tunxis Community College.

The dental assistant programs have graduated 270 assistants over the last four years. Of the 107 currently enrolled, 74.8% are female. Based on past graduate behavior, it is expected that 77.1% of the 839 anticipated grads will enter the Conn. labor force. (See Table C).

DENTAL LABORATORY TECHNICIAN

Traditionally, dental laboratory technicians have been educated through apprenticeship training at the dental laboratories. Many laboratories will probably continue in this way even though Eli Whitney Regional Vocational Technical School graduated their first class of 9 technicians in 1973. There are now 18 enrolled, of whom 67% are female. South Central Community College is offering the Associate degree to Eli Whitney graduates, giving credit for the completed year.

GRADUATE AND ENROLLMENT DATA FROM RESPONSES OF EDUCATORS TO CHE STUDY

(CIHMR QUESTIONNAIRE OCT. 1973)

TABLE 2

	Current							Perceived Projections		
Occupation Dental	# known Conn. Programs	# questionnaire Responses	Total Grads 70-73	Total Enrollment 9/73	% Female	# Applicants / capacity of 1st yr.class	% expected to grad. from 1st yr. class	Total grads 74-5	74-80	# of Planned Programs
Dental Hygienist A.S.	1	2*	213	180	100	160/40	100	174	699	1
Dental Hygienist B.S.	1	1	13	unknown	unknown	unknown	100	9	34	0
Dental Assistant	4	6*	270	107	75		93	219	839	3
Dental Lab Technician	2	1	9	18	67	50/20	75	33	108	1
Total	7	10	505	305	89			435	1,680	5

*Includes planned program capacity

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DIETITIAN (Clinical)

A bachelor's degree major in dietetics is offered by the University of Connecticut School of Allied Health Professions and St. Joseph's College. Aetna Life and Casualty Insurance Company offers an internship with emphasis on food service administration, and Yale New Haven interns with an emphasis on hospital food service administration and dietitian.

The program at the University of Connecticut is new, expecting to graduate its first class of five in 1975. Currently there are 24 students enrolled in the program. If the enrollment remains relatively constant, it is expected that 48 students will graduate by 1980. However, the institution reported a capacity of 25 students in the first year class, with only 7 applicants. If a possible shortage of dietitians is anticipated, the interest in this profession may show a sharp increase, building up enrollment. If, by 1978, twenty-five students graduate each year, the total graduates in 1980 will be increased to 99. (See Table 3).

St. Joseph's College in Hartford has matriculated eight students in the past four years. This program has expanded, with an enrollment of 23 women. If enrollment does not vary, about 59 students will leave St. Joseph's as dietitians. The capacity of this program is 15; accordingly graduates could increase from 1978 by 18.

According to the graduate data from St. Joseph's College, of the eight graduates, five did not seek employment. The three graduates who found employment are employed outside of Connecticut. A few possibilities exist to explain this phenomenon: that the three students were residents of other states and returned home, that jobs were not available within Connecticut, or that the graduates chose to reside in new states. Since all of the Northeast states have dietitian education, Connecticut is not educating in a regional capacity. In order to meet Connecticut's demands, more future dietitians will need to practice within the state.

In summary, the two programs will graduate a minimum of 107 dietitians by 1980, if enrollment remains constant, If, however, enrollment builds to fill capacity, a possible 176 dietitians could graduate. If the anticipated undersupply in this field were to be made known, recruitment could be initiated to meet the demands.

GRADUATE AND ENROLLMENT DATA FROM RESPONSES OF EDUCATORS TO CHE STUDY

(CIHMR QUESTIONNAIRE OCT. 1973)

TABLE 3

	Current							Perceived Projections		
Occupation	# known Conn. Programs	# questionnaire Responses	Total Grads 70-73	Total Enrollment 9/73	% Female	# Applicants / capacity of 1st yr.class	% expected to grad. from 1st yr. class	Total grads 74-5	74-80	# of Planned Programs
Dietitian	2	2	8	47	unknown	58/40	unknown	19	107	0

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EDUCATION GROUP

Two of the health occupations involved in education are the health educators and special education teachers. The field of special education seems to be a growing one, as is health education. The graduates from these programs are difficult to predict, but based on the best figures available, it is expected that by 1980 somewhere between 2,527 and 2,912 students will graduate in this area. Based on the information supplied by the schools, about 58% of the graduates will be employed in this state. (See Table A)

Health Educator

Health educators can be graduated from Departments of health, physical education and recreation. As such, it is difficult to identify which graduates will actually go into health education. With the increasing emphasis on educating school children in health, it is conceivable and observed that physical education teachers teach health education to their students. Does this make all physical education teachers health educators, and therefore all graduates of this department health educators? Schools indicated that it does not, and therefore supplied data about those who would specialize. The University of Connecticut, Southern Connecticut State College, and Western Connecticut State College offer health education in the physical education department. The University of Bridgeport offers a major in Dental Hygiene Education through which a graduate can teach dental hygiene or practice as a dental hygienist. Central Connecticut State College offers a major in Nurse Teacher Education designed to prepare registered nurses to teach. Due to the specialized nature, however, of these two programs, they were not included in the rubric of health educators.

Two of the programs reported 24 graduates in the past four years. There are currently 52 enrolled, with a majority of 77% female. By 1980 approximately 99 students will have graduated, provided the programs remain constant. (See Table 4).

Special Education Teacher

Courses for special education teachers are available at the baccalaureate, Masters and 6th year levels. Certification for special education is required by this state. All bachelors and masters programs prepare for certification. Southern and Central Connecticut State Colleges, The University of Hartford, and St. Josephs College offer baccaulaureate and masters programs. Fairfield University offers the Master's Degree.

Due to the great number of graduate courses and students, graduating classes will vary greatly. Most graduate students attend school part-time and have up to seven years to complete requirements. In addition, those students who study full-time can take from one to two years to complete. With these intervening variables in mind, graduates were computed. A total of 422 graduates have completed requirements in the last four years. Currently there are 953 students (undergraduate and graduate) enrolled, 85% of whom are women. Projected graduates were calculated using two formulas:

the minimum=the number of part-time students in masters programs divided by four plus one-half the number of full-time graduate students.

the maximum=the number of part-time students in masters programs divided by three plus all full-time graduate students.

Using these two methods, the number of graduates by 1980 may range from 2,428 to 2,813. Based on the behavior of past graduates, 58% will be employed in

Special Education Teacher (Continued)

Connecticut, or from 1,408 to 1,632 teachers. According to the same information, near 18 % of 151 graduates, or 27 teachers were unable to find jobs. The reasons for this are unknown at this time. (See Table C).

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GRADUATE AND ENROLLMENT DATA FROM RESPONSES OF EDUCATORS TO CHE STUDY

(CIHMR QUESTIONNAIRE OCT. 1973)

TABLE 4

	Current							Perceived Projections		
Occupation Education	# known Conn. Programs	# questionnaire Responses	Total Grads 70-73	Total Enrollment 9/73	% Female	# Applicants / capacity of 1st yr.class	% expected to grad. from 1st yr. class	Total grads 74-5	74-80	# of Planned Programs
Health Educator	3	2	24	52	77	unknown	80.8	12	99	1
Special Education Teacher (min.) (max.)	8	7	422	953	84.7	unknown	78	640 750	2428 2813	0
Total	11	9	446	1005	84.3	unknown	78	652	2527	1

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ENVIRONMENTAL HEALTH

The environmental health field appears to be one that is growing, and educational programs seem to be accordingly undergoing expansion. The environmental health technology and technician programs are just getting underway, having only graduated 10 students in the past four years. The Master of Public Health specialty of Yale University, contributed 33 of the environmental health science graduates. By 1980, we can expect about 420 graduates, 61% of whom will be two-year technicians. (See Table 5).

ENVIRONMENTAL HEALTH M.P.H.

The Master's program for environmental health is offered by Yale University. There are currently 10 students enrolled, seven of whom are women. If the number of students graduating remains constant, 60 environmental scientists will leave Yale. There are 2.4 applicants for each opening in the first year class. Based on the labor force entry patterns of post baccalaureate graduates, approximately 48% can be expected to enter the labor force in Connecticut. This indicates that 29 graduates will remain in Connecticut as environmentalists. (See Table B).

ENVIRONMENTAL HEALTH TECHNOLOGISTS

There are two technology programs in four year colleges in Connecticut. Within several of the biology departments of other colleges, students can sub-specialize in environmental health. To date, there has been one graduate; the first graduates of one program will matriculate in 1975. Twenty-one percent of the 58 students currently enrolled are women.

Due to the fact that these programs are just getting underway, a rapid expansion in the next few years is expected. Based on current enrollment, it is expected that there will be 23 graduated by 1975. By 1980, there may be above 100 environmental health technology graduates. 52.8% will find employment in Connecticut. It is expected that 25% of the environmental health field will be four year technologists.

ENVIRONMENTAL HEALTH TECHNICIAN

Three technican programs are offered in Connecticut, two in community colleges. An environmental health major is also offered at Norwalk State Technical College. In the community colleges only nine students have met the requirements for the new courses, however there are 56 currently enrolled, only 5 of whom are women. Since these are two year programs, we expect 56 graduates by 1975. It appears that this major will gain in popularity, contributing some 256 graduates by 1980. With this sharp rise in graduates, technicians will comprise 61% of the environmental health personnel.

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GRADUATE AND ENROLLMENT DATA FROM RESPONSES OF EDUCATORS TO CHE STUDY

(CIHMR QUESTIONNAIRE OCT. 1973)

TABLE 5

	Current							Perceived Projections		
Occupation Environmental Health	# known Conn. Programs	# questionnaire Responses	Total Grads 70-73	Total Enrollment 9/73	% Female	# Applicants / capacity of 1st yr.class	% expected to grad. from 1st yr. class	Total grads 74-5	74-80	# of Planned Programs
Environ. Health MPH	1	1	33	10	70	24/10	95	10	60	0
Environ. Health Technologist	2	2	1	58	20.7	52/41	80	23	104	0
Environ. Health Technician	3	2	9	56	8.9	unknown	unknown	56	256	0
Total	6	5	43	124		unknown	unknown	89	420	0

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LABORATORY GROUP

Laboratory personnel are educated in both hospital laboratories and educational institutions independently and in concert. Positions ranging from on-the-job training to graduate training compose the laboratory setting. With the increased automatization of laboratory testing, more tests are possible with limited numbers of personnel. Indications from the employers are toward a different mix in personnel in the laboratory (see employment section for complete details.) Likewise, educational programs indicate a mix in the training of graduates.

Taking the total number of graduates of laboratory personnel, and finding the percentage of personnel within individual occupations enables a comparison of the same ratios for projected graduates.

Laboratory Personnel

	Past Grads %	74-75 Grads %	76-80 Grads %	74-80 Grads %
Cytotech.	69/16.5	34/9.2	95/9.4	129/9.3
CLA	82/19.6	32/8.7	70/6.7	102/7.4
MLT	114/27.2	53/14.4	102/10	155/11.2
Med. Tech.	154/36.8	195/53	508/50	703/50.8
Med. Lab. S.	0/0	54/14.7	240/23.6	294/21.3
Total	419	368	1,015	1,383

The percentage of cytotechnologists, certified laboratory assistants and medical laboratory technicians expected to graduate if programs remain constant takes a sharp decline from the recent graduates. Inversely, the ratio of medical technologist and laboratory scientist graduates to the whole, sharply increases. The higher level personnel seem to be dominating the laboratory personnel in the future.

Cytotechnologist

Connecticut sponsors three programs in cytotechnology at Hartford Hospital, Yale-New Haven Hospital and Quinnipiac College. They range in duration from 18 months to three years, resulting in a certificate or associate degree.

Based on responses from two programs, 69 graduates have completed the course of study with 53 women currently enrolled. One hundred and twenty-nine are expected to graduate by 1980. (see Table 6).

The factor that all enrolled are female explains the past behavior of cytotechnology graduates. Based on institutional responses, nineteen and two-tenths percent did not seek employment; the same rate did not find employment. Sixty one and five tenths percent were employed in Connecticut. (See Table C.)

As was noted, cytotechnologists will make up a smaller proportion of the laboratory workers in the future. If nineteen percent were unable to find employment in the past, the future of cytotechnology may bear watching.

Certified Laboratory Assistant

Until recently referred to as medical laboratory assistant, the certified laboratory assistant programs are hospital based, one year post-secondary training. Currently, four hospitals sponsor this training which can lead to certification from the American Society of Medical Technologists. As was discussed previously, the ratio of certified laboratory assistants to all laboratory workers is expected to decline from nineteen and six tenths to seven and four tenths.

Responses from three programs tell of 82

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Certified Laboratory Assistant (Continued)

in the last four years, a[illegible] an enrollment of 18 over three-quarters women. It is estimated that about 129 will complete the course in these three programs by 1980. (See Table 6).

The predominance of women in the field does not seem to affect the employment patterns. All of the graduates for which data was kept were employed in Connecticut. (See Table C)

Medical Laboratory Technician

The medical laboratory technician programs in Connecticut are generally of two years duration. Housatonic and Manchester Community Colleges offer medical laboratory technician programs, as does Sharon Hospital. The 4 year apprenticeship at Sharon Hospital is sponsored by the Connecticut Department of Labor. Eli Whitney Vocational Technical School is proposing a course of study at their site in New Haven. Clinical experience, an integral part of this training, is offered in several hospitals.

The size of the classes for the three programs will remain relatively small, with a turnout of about 155 by 1980. The vast majority are women. For every opening in the class, three students apply, giving the appearance that interest abounds in these courses.

The majority of the past graduates remained in Connecticut. (75.9%.) Eleven percent did not seek employment, an equal ratio did not find employment. Only two percent left the state. (See Table C)

Medical Technologist

This four to five year degree can be achieved by several means. A student can attend a college or university that offers a medical technology major for three years. The fourth year is spent at a hospital school of medical technology. In most instances, students must apply to the hospital for the clinical training. In some cases, the schools may cooperate under an agreement, and students will be accepted into hospital settings. Upon completion of the year's clinical training, the student receives the baccalaureate degree from the educational institution. Another possibility open to the student is that of working for the baccalaureate degree at the college, majoring in biology, then applying for the fifth year at a hospital school. Graduates of accredited programs can be awarded ASCP certification.

Seven four year colleges and universities, responded with data on medical technology students, four public institutions and three private. The anticipated class sizes are more than twice as large as in the last four years. Current enrollment stands at 474, seventy-one percent female. The percent of the first year class expected to graduate is low when compared with other four year programs. It is not understood why this ratio is so low, except perhaps because many students transfer into other departments. By 1980, about 700 medical technologists will have completed courses of study. Past information indicates 39% did not seek employment in the field. Nearly 61% were employed in Connecticut. (See Table C)

Indications from employers are that medical technologists will be an increasing population in the laboratory. The corresponding trend is showing up in the graduate population, as shown previously.

Medical Laboratory Scientist

Quinnipiac College, School of Allied Health and Natural Sciences has initiated a continuing education program leading to the Master of Health Science. Evening courses allow participants to work while studying thirty-two credit hours. Fifty-four students are currently enrolled, half are women. The first

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Medical Laboratory Scientist (Continued)

graduates may complete their study in 1975. By 1980, 240 may have completed requirements.

It is not clear at this time where these advanced degree personnel will be employed. They may hold high level laboratory jobs in hospitals and private laboratories or enter into areas of which we are not aware.

GRADUATE AND ENROLLMENT DATA FROM RESPONSES OF EDUCATORS TO CHE STUDY

(CIHMR QUESTIONNAIRE OCT. 1973)

TABLE 6

	Current							Perceived Projections		
Occupation / Laboratory	# known Conn. Programs	# questionnaire Responses	Total Grads 70-73	Total Enrollment 9/73	% Female	# Applicants / capacity of 1st yr. class	% expected to grad. from 1st yr. class	Total grads 74-5	74-80	# of Planned Programs
Cytotechnologist	3	2	69	53	100	unknown	unknown	34	129	0
Certified Lab. Assistant	4	3	82	18	78	65/9 (2 resp)	100	32	102	0
Medical Lab. Technician	3	3	114	65	85	unknown	98	53	155	1
Medical Technologist	7	7	154	474	71	unknown	63	195	703	0
Medical Laboratory Scientist	1	1	0	54	54	70/60	80	54	294	0
Total	18	16	419	664	73.9	unknown		368	1383	1

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MEDICAL RECORDS GROUP

The areas in medical records offered for study in this state are limited. It is apparent that past applicants for positions in medical records were from out of state, or gained knowledge of the job through experience. Opportunities for the medical transcription and medical records study at Greater Hartford Community College, are new.

MEDICAL RECORD TECHNICIAN

Greater Hartford Community College has the course of study for this occupation in the planning stages. Neither the anticipated enrollment, nor the official date of induction are known.

The employment data seems to indicate a demand for these technicians; therefore, it is hoped that the graduates of this planned course of study will remain in Connecticut to ease the demand.

MEDICAL TRANSCRIPTIONIST

As indicated, the course of study offered at Greater Hartford Community College is new, having graduated one student. This one student found employment outside of Connecticut, (see Table C); interesting, for employers have submitted a record of scarce supply. Seventeen women are enrolled in this one year program, which is capable of accommodating twenty-five students. Here is another instance of under-subscription; if enrollment is increased to capacity, up to 95 students may complete the course by 1980. (See Table 7)

It is conceivable that employers have engaged non-medical transcriptionists and have either given them experience with medical terms, or adjusted for the lack of knowledge by other means. The reception of the future graduates by employers will be interesting to watch.

GRADUATE AND ENROLLMENT DATA FROM RESPONSES OF EDUCATORS TO CHE STUDY

(CIHMR QUESTIONNAIRE OCT. 1973)

TABLE 7

	Current							Perceived Projections		
Occupation Medical Records	# known Conn. Programs	# questionnaire Responses	Total Grads 70-73	Total Enrollment 9/73	% Female	# Applicants / capacity of 1st yr.class	% expected to grad. from 1st yr. class	Total grads 74-5	74-80	# of Planned Programs
Medical Record Technician										1
Medical Transcriptionist	1	1	1	17	100 C-24	17/25	50	30	95	0

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NURSING GROUP

The nursing profession is the largest percentage of health personnel employed. Included in the nursing group here is the Registered Nurse, (including specialists), the licensed practical nurse, the nursing aide and the psychiatric aide. Of the nearly 7300 graduates of these instructions, 32% are registered nurses, 0.6 percent are nurse anesthetists, 1.1 percent are master's degree nurses, 35.6 percent are LPNs, 27.7 percent are nursing aides, and 3.0 percent are psychiatric aides (See Table 8).

Educating nurses, as in other health occupations, is a mix of academic and practical experience (gained through instruction at a clinical site). A wide range of clinical sites could be available - hospitals, extended care facilities, neighborhood health centers, health maintenance organizations, visiting nurse associations, public health departments, private practices, school and industrial infirmaries, Red Cross chapters and other voluntary health organizations. Rotation throughout these clinical sites would provide a more diversified experience on which nurses could draw, as well as increase the total availability of clinical spots. In this way, the capacity of a program could increase if necessary, by adding more available clinical spots in new facilities.

The education of nurses and related occupations is presently going through a transition stage. Many of the hospital schools of nursing are closing down, transferring their support to associate degree programs. The nursing aide programs are increasingly being given in high schools, while career ladder and career lattice concepts are under study. Can the LPN be given a year's credit for her training towards her associate degree? Can a student enrolled in an associate degree program qualify after the first year to take the practical nurse licensure examination? Can the associate degree and diploma nurse receive full credit towards a Bachelor of Science in Nursing? Can the nursing aid receive credit toward practical nurse education? Attempts are being made to answer these questions by educators. The progress that is being made will be discussed in the following sections.

REGISTERED NURSE

DIPLOMA

The three year hospital schools offer a nursing diploma to graduates. Fourteen schools are currently operating in Connecticut, but eight of these schools are in various stages of phasing out, and are not accepting new students. Many of these hospitals are already making plans to provide the clinical settings to associate and baccalaureate programs.

Hartford Hospital is making plans with Manchester Community College and University of Hartford for the ADN and BSN program. New Britain General Hospital expects to work with Tunxis Community College to provide a nurse curricula.

Primary and secondary data about the diploma schools gave a total of 1936 graduates over the last four years. Responses from eleven schools show current enrollment of 1150, not all female. Adjusting the future graduates to include all 14 schools leads to the expectation of 3315 graduates by 1980. (See Table 8).

Information about the last four graduating classes, as supplied by the hospitals, indicates graduates had no difficulty finding employment. Of those employed, 91.6 percent stayed in Connecticut; 8.4 migrated out of state. (See Table C). Applying these ratios to expected graduates indicate that just over 3000 will remain in Connecticut.

ASSOCIATE DEGREE

The associate degree programs are new, for the most part. The University of Bridgeport is the oldest in the state; Norwalk Community College graduated its first class in 1971; Quinnipiac College graduated its first class in 1972. The newest program, Mattatuck Community College will graduate its first nursing class in 1974; Mohegan Community College in 1975. Manchester and Tunxis Community Colleges plan to open nursing programs in 1974.

The associate degree programs do not give as much academic training as the baccalaureate, nor as much clinical training as the diploma. These nurses do not appear to have difficulty being hired as staff nurses. As the numbers of diploma nurses decrease, it is clear that an increased number of associate degree nurses will be employed.

Three hundred forty-four nurses graduated from three associate degree programs. Ninety four percent of the current 557 enrollment are women. The percentage of men is higher in the ADN programs than in the diploma courses. If the two anticipated schools do not open, graduates by 1980 will be about 1700. If the schools do open as anticipated with the expected capacity, the graduates will be increased by 400. When compared to the diploma schools, five ADN programs will still graduate fewer than the 6 diploma schools.

Of the graduates of the University of Bridgeport Junior College, sixty-four percent found employment out of state, 7.5 percent did not look for jobs, 6 percent could not find jobs. These figures are not used as a standard for the state, due to the large out-migration, however, this unusual finding warrants investigation in that region.

There is some indication from employers that AD nurses do not have the clinical experience that diploma nurses have. Although associate nurses on occasion need more orientation in their first position, many employers agree they become as proficient as other nurses.

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BACHELOR OF SCIENCE

Three public schools and two private universities offer the four year Bachelor of Science degree in nursing. Four other schools offer courses in liberal arts to the registered nurse to complete the baccalaureate degree. This degree, however, is not in nursing. Central Connecticut State College offers a B.S. degree in nursing education, preparing registered nurses to teach. There is one new program in the offing at the University of Hartford in cooperation with Manchester Community College and Hartford Hospital. Manchester courses will receive full credit towards the Bachelor of Science in nursing at the University of Hartford, as proposed for the fall, 1974.

The five schools - University of Connecticut, Western Connecticut State College, Southern Connecticut State College, University of Bridgeport and University of Fairfield contributed 674 nurses to the nursing pool. Ninety-seven percent of the current 1600 enrollment are women. If programs remain the same, and the University of Hartford program is initiated, over 2750 nurses will have baccalaureate degrees by 1980. Past graduate data yielded the information that 73.9 percent stayed employed in Connecticut, 26.1 percent went out of state. If future graduates follow the same trends, 2000 of the graduates will seek employment in-state.

The baccalaureate nurses, having had more academic training, seem to be capable of filling the more administrative positions. After completing the bachelor program, the master's and more specialized fields are open. It would appear these are the advantages of the bachelor of science degree.

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MASTER OF SCIENCE

Up until 1973, three programs for the master's degree were available; the Universities of Connecticut and Bridgeport, and Yale University. In that year, the University of Bridgeport discontinued the program. Such specialties as nurse midwife, public health nurse, psychiatric nurse and pediatric nurse can be studied. A three year pilot program at Yale University is under consideration through which a student becomes qualified to take the registered nurse examination, and receive a master of science in nursing.

The graduates over the last four years number 111, 30 of whom were nurse midwives. One hundred-ten students are enrolled in master's programs with 13 additional women studying nurse-midwifery. By 1980, 513 nurses will have completed the masters' programs (if they remain constant), 73 of whom will have specialized in midwifery. There are between 2 and 3 applicants for every first year class.

Employment data on past graduates show the following breakdowns:

64.7% of the MS nurses were employed in state.

35.3% of the MS nurses were employed out of state.

42.9% of the Nurse Midwives were employed in state.

57.1% Nurse Midwives employed out of state. (See Table C).

The high percentages going out of state may be influenced by a large number of students residing out of state before studying at Yale University.

SPECIALTY NURSES

Many hospitals may give specialty training in house, i.e. coronary care nurse, ob-gyn nurse, nurse anesthetist, etc. A unique course for Pediatric Nurse Associates is offered by the University of Connecticut at McCook Hospital. Another pilot project for Adult Medicine Ambulatory Care Nurse Practitioners is based at Hartford Hospital.

Since specialty programs are hospital based, their identification is difficult. Six nurse anesthetist programs, one ob-gyn program and one coronary care program are known. It is doubtful that this compilation is complete.

Information based on three nurse anesthetist programs shows 44 graduates over the last four years, with 76 graduates expected by 1980. Straight extrapolation (factor 2.0) brings that to 152 by 1980. Nearly 75% of the graduates stayed in the state for employment.(See Table C).

Being a pilot program is a tenuous situation, so the Hartford Hospital and UConn programs are not sure of their future status. If continued, Pediatric Nurse classes will be of size 9, Adult Nurse classes will number 8. The four graduates who completed the Adult Nurse program remained in Connecticut; 67.6 percent of the pediatric nurse associates remained in Connecticut.

From the single coronary care nurse program that is known, 24 nurses have graduated. By 1980 up to 140 will have graduated. It is possible that there will be a greater need for these nurses. It is assumed, however, that employers will continue to provide instruction for their own needs. Hartford Hospital is presently instructing ob-gyn nurses to work within the facility, having instructed three nurses last year.

Other specialty nurses in intensive care, emergency room and newborn services, etc. are probably utilized more than indicated here. As technology progresses, employees must become acquainted with special skills. Due to the variable nature of the demand, hospitals should continue to provide their own in-service training.

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LICENSED PRACTICAL NURSE

After one year post secondary training in practical nursing, composed generally of four months academic and eight months clinical, a graduate is eligible to take the examination for licensure. Job functions of the LPN are limited by state statute. Changes in the LPN programs are underway in the Connecticut educational system, such as better integrated clinical and academic programs, and the associate degree LPN.

Vocational technical schools offer ten one year post-secondary practical nurse programs. From these programs nearly 2600 students have graduated over the last four years. Of these graduates, 92.3 percent were employed in Connecticut. (See Table C).

A.I. Prince Regional Vocational Technical School offers an integrated program of pre-clinical and academic. In order to offer LPN's a higher educational degree, South Central Community College and Eli Whitney Regional Vocational Technical are cooperating to give students credit for one year towards an associate in science degree. It is expected that H.C. Wilcox Regional Vocational Technical School will start practical nurse education in the future.

The current enrollment in the ten programs is 681, 98 percent female. Based on a conservative figure of 582 graduates per year, the estimate for graduates by 1980, is 4153. Based on the trend set by past graduates, if 92.3 percent of the graduates remain in Connecticut, 3821 will be employed in the state. It appears that this rate of graduates will be adequate to meet the future demand. Extended care facilities rely heavily on licensed practical nurses, and future expansion and construction of new facilities is foreseen.

NURSING AIDE

Hospitals have traditionally offered training for nursing aide to new employees. As the need for nurses aides arose, employees would be hired and then instructed. Of late, high schools have begun to offer vocational instruction in the areas of nursing aides and allied health occupations. Students study from six months to two years, generally in their junior or senior year. Some programs are coordinated with area health care facilities to provide practical experience, others are not.

Sixty-three nursing aide programs have been identified, 43 in high schools and 20 in health care facilities (including hospitals and extended care facilities). Many more programs may be given as in-house training in health care facilities that were not reported.

When hospitals and extended care facilities do their own training for nurses aides, they are meeting their own demands. Therefore, should a shortage be indicated, the employers will probably solve the problem.

High schools also offer courses in allied health occupations to students. These courses give a general overview of the introductory health occupations leading to entry into dietetic aide, nursing aide, housekeeping aide, etc. Five high schools initiated new nursing aide programs in the fall of 1973. One or two high schools are generalizing their courses to the allied health study.

Graduates of 40 nursing aide programs increased from 387 to 607 from 1970 to 1973, totalling 2021. In these programs currently 792 students are enrolled, 95 percent female. On the average, it is expected that 505 students having completed the nurse aid study, will graduate each year. Based on the response from these forty programs, some 3530 students will have completed nurse aide programs by 1980. Since 23 programs did not give data on class sizes and graduates, these figures are highly conservative. A more realistic figure, arrived at through straight extrapolation might be 787 graduates per year, or 5360 by 1980.

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Due to the fact that the majority of the programs are based in schools, a high percentage of students go on to higher education. Indications from educators are that many of the students go on to more advanced training in allied health professions. Of the graduates over the last four years, 66.2% were employed in the field within the state; 1.3 percent went out of state; 25.4 percent did not look for jobs (students going to school are included in this category) and 7 percent could not find employment. (See Table C). Since hospital based program graduates are included in these figures, a high ratio staying within the facility for employment is expected, as well as the high percent of students not seeking employment.

Some health care facilities have already discontinued in-house nurse's aides programs in favor of high school graduates. Ofttimes the hospital and high school have coordinated the program in order to provide the hospital with a "job-ready" graduate.

PSYCHIATRIC AIDE

Programs for psychiatric aide instruction, as given in Connecticut, are given to employees of psychiatric hospitals. Two state hospitals, Fairfield Hills Hospital and Norwich Hospital, and one private institution, Institute of Living, offer this training. The state hospitals award a certificate upon completion of the 34 week course, and training wages are paid in all facilities. For the most part, employees are trained in this area as the hospital feels a need for these personnel, so again, they are meeting their own demand. In fact all of the graduates over the last four years were hired in the training institution. (See Table C).

Other psychiatric facilities are not providing training for psychiatric aides. They indicate they hire college graduates to fill some of the functions of psychiatric aides.

Since 1970, 217 psychiatric aides have graduated from these three programs. There are currently 59 enrollees, 67 percent of them male (an unusually high number of males in an allied health occupation). Based on the average number of students, a projected figure of 326 graduates is seen by 1980.

It is possible that graduates of mental health programs are finding their way into aide positions. It can safely be assumed, however, that these institutions will continue to fill their vacancies with untrained personnel, assuming the responsibility of instruction.

GRADUATE AND ENROLLMENT DATA FROM RESPONSES OF EDUCATORS TO CHE STUDY

(CIHMR QUESTIONNAIRE OCT. 1973)

TABLE 8

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Occupation	Current							Perceived Projections		
Nursing	# known Conn. Programs	# questionnaire Responses	Total Grads 70-73	Total Enrollment 9/73	% Female	# Applicants / capacity of 1st yr.class	% expected to grad. from 1st yr. class	Total grads 74-5	74-80	# of Planned Programs
Registered Nurse (Adjusted)	37	31	3176	3501	96.2	4747/1215		2505	8588	3
Diploma	14	11	1222	1150	96.7	1626/411	85.5	761	2194	0
(Adjusted)	14	14	1936					1193	3315	
Associate	5	5	344	557	94	1213/222 (4 resp)	75	472	1697	2
Baccalaureate	5	5	674	1610	97	1618/479	80	636	2707	2
Masters	2	2	81	110	95	102/55	90	90	440	0
Nurse Midwife	1	1	30	13	100	13/21	100	13	73	0
Pediatric Nurse Associate	1	1	36	9	100	50/9	100	18	63	0
Adult Nurse Practitioner	1	1	4	8	100	unknown	100	16	56	0
Nurse Anesthetist	6	3	44	21	71	125/18	94	21	76	0
Specialty	2	2	27	23	100	unknown	100	46	161	0
Licensed Practical Nurse	10	10	2597	681	98	2211/657 (9 resp)	77	1243	4153	1
Nursing Aide	63	40	2021	792	95	unknown	90	1005	3530	?
Psychiatric Aide	3	3	217	59	23	unknown	95	101	326	0
Adjusted Total	113	84	8011	5036	94.1	unknown		4854	16597	7

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PHYSICIAN ASSISTANTS

Physician assistants, an emerging occupation, are being utilized more in hospitals and private offices. By freeing the physician's services, physician assistants allow the doctor more time for specialized care, particularly in areas having a shortage of medical personnel.

The two programs for assistants in Connecticut are new, graduating their first classes in 1973. Quinnipiac College offers a specialized program in pathology. Yale University offers the physician associate program. Their combined graduates numbered 18 in 1973. (See Table9). Enrollment in the physician assistant in pathology program is expected to remain constant at 4. The current enrollment is 38 percent female. With this enrollment, 28 graduates are expected by 1980. Last year's graduates split 50-50 in and out of state. Yale's program has 35 students enrolled, 33% female. An average class of 17 will yield 120 graduates by 1980. A popular program, there are 500 applicants for 18 openings, it trains physician associates for states other than Connecticut. Sixty-four percent of the previous graduates went out of state, and requests are received from around the nation. Only five were employed in Connecticut.

Both programs are of two year durations; however, Quinnipiac College offers the Bachelor of Health Science Degree, and Yale gives a certificate upon completion. A new professional organization has started for physician assistants. There is talk of setting up certification for graduates of recognized programs.

GRADUATE AND ENROLLMENT DATA FROM RESPONSES OF EDUCATORS TO CHE STUDY

(CIHMR QUESTIONNAIRE OCT. 1973)

TABLE 9

	Current							Perceived Projections		
Occupation Physician Assistants	# known Conn. Programs	# questionnaire Responses	Total Grads 70-73	Total Enrollment 9/73	% Female	# Applicants / capacity of 1st yr.class	% expected to grad. from 1st yr. class	Total grads 74-5	74-80	# of Planned Programs
Physician Associate	1	1	14	35	33	500/18	95	35	120	0
P.A. in Pathology	1	1	4	8	38	16/4	100	8	28	0
Total	2	2	18	43	35	516/22	95	43	148	0

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RADIOLOGY GROUP

With new equipment being designed for radiologic testing, more specialized personnel are needed for operation. The nuclear medicine technologist is one of these such specialists. The ultrasound technician, dosimetrist, radiotherapy technologists are others. Within this group of radiology are also included the radiologic technologist and radiation therapy technologist.

Over the past four years 451 students have graduated from radiation and nuclear medicine programs: (See Table 10), ninety-eight percent in x-ray technology and two percent in radiation therapy. With the introduction of nuclear medicine technology graduates by 1980, the expected number of graduates will be at least 1320; ninty-five and eight-tenths percent x-ray technologists, three and three-tenths percent radiation therapy technicians and nine-tenths percent nuclear medicine technologists.

With the advent of new specialties, it may be that existing personnel will be trained to perform special tasks. In this case, the mix of personnel may change still, but the vast majority of radiology personnel will remain x-ray technologists.

RADIOLOGIC TECHNOLOGISTS

Twenty-three programs for radiologic technology are offered in Connecticut, the majority in hospitals. Mattatuck, South Central and Middlesex Community Colleges, as does Quinnipiac College award associate degrees upon completion of two year courses. There was no indication that no programs would open or close, although a few respondents reported a reduction of class size.

The nineteen programs that responded reported 442 graduates of programs over the last four years. Nearly 80% of the graduates were employed in Connecticut, near twelve percent reported employment outside Connecticut, three and six-tenths did not seek employment, four and seven-tenths were unable to find employment. (See Table C).

These programs reported an enrollment of 414, 84% female. If programs remain the same, by 1980, 1265 students will have graduated. Even with this number of graduates, there are 4.8 applicants for every opening in the first year class.

Although employment opportunities for radiologic technologists are great, graduates currently are encountering difficulty finding employment. There may be opportunities out of Connecticut, but all surrounding states operate radiology education as well. In this instance, a perspective student would do well to seriously consider this field of study.

RADIATION THERAPY TECHNOLOGIST

To study radiation therapy in Connecticut, a student may attend a private (Quinnipiac College) or a public (South Central Community College) institution. These 3 and 2 year programs lead to the associate in science degree.

The first three graduates of Quinnipiac College left in 1971. Graduates from that school have totalled nine. South Central has its first class enrolled, expecting to graduate five in 1974. A total of seventeen, fifteen women, are enrolled in the programs. If the size of the programs remains constant, (and that is doubtful considering the South Central program is in initial stages) forty-three students will receive associate degrees by 1980. Already, thirty-four people applied for the seven freshman class openings.

NUCLEAR MEDICINE TECHNOLOGIST

Another new program, nuclear medicine technology, has been started at South Central Community College. Two

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students are enrolled, one female; the first to graduate in 1974. The capacity of the class at this time is two; only one student has applied for each opening. If these classes are filled to capacity, 12 nuclear medicine technologists will receive degrees by 1980.

GRADUATE AND ENROLLMENT DATA FROM RESPONSES OF EDUCATORS TO CHE STUDY

(CIHMR QUESTIONNAIRE OCT. 1973)

TABLE 10

	Current							Perceived Projections		
Occupation / Radiology	# known Conn. Programs	# questionnaire Responses	Total Grads 70-73	Total Enrollment 9/73	% Female	# Applicants / capacity of 1st yr.class	% expected to grad. from 1st yr. class	Total grads 74-5	74-80	# of Planned Programs
Radiologic Technologist	23	19	442	414	84	1015/210 (17 resp.)	90	380	1265	0
Radiation Therapy Technologist	2	2	9	17	88	36/7	84	13	43	0
Nuclear Medicine Technologist	1	1	0	2	50	1/2	100	2	12	0
Total	26	22	451	433	84.3	1052/219 (20 resp.)	89.8	395	1320	0

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REHABILITATION THERAPY

The areas of specialty belonging in rehabilitation are many: physical therapy, occupational therapy, recreation therapy, manual arts, dance, art and music therapy, speech pathology and audiology, rehabilitation counselling, and orthotics. Most of the specialized personnel work directly within a health care facility, while some function out of social service agencies, in public schools and in clinics. Many courses of study in rehabilitation are offered in Connecticut, from the two-year associate degree to the Master's and Ph.D. degrees.

The positions for these people are limited, and correspondingly, the numbers of graduates are small. In most cases, educational programs are limited to one or two in the state for each occupation. Since 1970, a total of 556 graduates have matriculated in rehabilitation areas (See Table 11.) Of these, 42.4% were physical therapists, 12.2% were occupational therapy assistants, 7.9% were speech pathologists or audiologists, 4.9% were recreation therapists and 11.1% recreation therapy assistants; 20.3% were rehabilitation counselors and 1.1% were orthotists and prosthetists. If current trends remain the same, the mix in personnel will undergo changes. The total number of graduates by 1980, based on current trends, will equal about 2180, of which 32% will be physical therapists; occupational therapists will be 7% and assistants 8.5%, speech pathologists or audiologists 7.1%, therapeutic recreators 15.8% and assistants 12.2%, rehabilitation counselors, 16% and orthotists and prosthetists will be 1.3%.

Nine hundred eighty-five students are currently enrolled in rehabilitative curricula, and over seventy percent are women. The information gathered from educational programs about the placement of graduates shows the majority of graduates are employed outside of Connecticut. Thirty-seven percent of the graduates from 1970 to 1973 were employed in their field within this state, 50.1% went outside the state, and 10.3% were unable to find jobs in their field of study. (See Table A). The high proportion of graduates unable to find employment was influenced by a few key occupations which will be discussed in detail.

PHYSICAL THERAPIST

Two schools in Connecticut offer the physical therapy major - the University of Connecticut, School of Allied Health Professions, and Quinnipiac College, School of Allied Health and Natural Resources. The Quinnipiac College program is new, expecting to graduate a first class of 28 in 1974. The U-Conn program, originally in the School of Physical Therapy, has contributed 236 graduates since 1970. Connecticut schools train physical therapists for surrounding states, as well. Maine, New Hampshire, New Jersey and Rhode Island do not offer education for physical therapy. (See Northeast section, Table 1). The data substantiates this observation: All of the graduates since 1970 were placed, 63.6% were employed outside of Connecticut, while 36.4% stayed in Connecticut to work. (See Table C). Besides students coming in from out of state to study, some are sent out of Connecticut for practical training. The University of Connecticut sends students to Massachusetts, Vermont, Rhode Island, Washington, D.C., even Texas for clinical training. (Reported by the School of Allied Health Professions). Quinnipiac College reported that one student is receiving unique education at a rehabilitation hospital in California.

Based on the assumption that the capacity of 120 students remains the same, it is expected that there will be 697 graduates by 1980. If the trends of the past graduates are continued, only 254 physical therapists will practice in Connecticut, while 443 will leave the state. This consideration must be viewed in light of the future employment projections. When supply projections were made, setting net migration at zero, an oversupply is shown. However, based on the trends of physical therapists to leave the state, the numbers

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in Connecticut will probably be much smaller than otherwise anticipated.

OCCUPATIONAL THERAPY

An occupational therapy program has just been initiated in Connecticut's higher education system at Quinnipiac College, School of Allied Health and Natural Resources. It may be that students from surrounding Northeast states will attend this course, for Maine, New Jersey, Rhode Island and Vermont do not educate occupational therapists. (See Northeast section, Table 1). This four-year program, comprised of academic and clinical training will graduate its first class this year. The current enrollment is 93, five men and eighty-eight women. (See Table 11). The graduating class for 1974 numbers 14. The capacity of the first year class is 30; assuming this capacity will be met, there may be roughly 153 graduates by 1980. Since this is a new program, there will only be a total of 33 graduates in 1974 and 1975. Already, there were 98 applications for the 30 openings in 1973.

OCCUPATIONAL THERAPY ASSISTANT

The two-year, associate degree, occupational therapy assistant can function in many areas, in a variety of settings. This assistant serves as a member of the rehabilitation team. The program for occupational therapy assistant is administered through Manchester Community College and Hartford Hospital.

There have been 68 graduates of this course since 1970. (See Table 11). The placement information, as kept by the college, indicates a problem of employment of occupational therapy assistants. Fifty-three percent of the graduates were reported as unable to find employment in their field. (See Table C). Several factors may account for this: a) There are not enough jobs for OTAs, due to budgetary problems, employer reluctance to utilize these personnel, or competition from on-the-job trained assistants; b) graduates are not seeking employment in needy areas, e.g. OTAs are maldistributed and unwilling, or unable, to relocate; or c) the program is over-saturating the labor force with graduates. The projected employment picture substantiates this problem, as perceived projections are considerably less than projected supply.

Another six percent did not seek employment (possibly going on to higher education?). Ten percent found employment outside of Connecticut and 30.6 percent were employed in this state (15 graduates) over the last four years.

Eighty-six percent of the total enrollment (56 students) are women. If graduates are continued to be produced at the same rate, there will be 56 graduates by 1975 and 186 by 1980. The capacity of this program is relatively large, standing at 32 students. In 1973, there were 105 applicants for the first year class.

The occupational therapy assistant can contribute many valuable skills to the rehabilitation team. The problem of employment may be one of under-utilization, in which case a change in attitude would benefit employer and employee.

RECREATION THERAPIST

These professionals, commonly known as recreation therapists, are more correctly called Therapeutic Recreators. Two state schools - the University of Connecticut and Southern Connecticut State College, offer four-year and graduate programs in therapeutic recreation. The University of Connecticut is proposing a program leading to the Doctor of Philosophy degree. This major is included in the Department of Health, Physical Education and Recreation, and as such, a concentration in recreation is an individual student's choice. Consequently, it is diffi-

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cult for the educators to have an awareness of who will concentrate in therapeutic recreation at the baccalaureate level.

With consideration of this problem, it is estimated that 27 graduates have concentrated in recreation since 1971. These programs are newly introduced, so enrollment is expected to increase. This is one of the few occupations of which the majority of students are men (56% of the enrollment). With 130 students currently enrolled, it is expected that 59 will graduate by 1975 and 344 will graduate by 1980, having concentrated in therapeutic recreation.

Knowledge about the placement of the graduates is limited, having reports of only seven of the 27 graduated. (See Table C). A large proportion were employed out of state (42.9%), but the simple majority remained in Connecticut (57.1%). The high proportion of graduates leaving the state was not introduced into the supply projections, for the reasons previously discussed. It must be remembered, however, that many graduates will leave the state, when comparisons between projected employment and projected supply are made.

RECREATION THERAPY ASSISTANT

The assistant to the therapeutic recreator can attend one of two associate degree programs; Northwestern Community College and Post Junior College give instruction in recreation therapy. These two programs are older than the baccalaureate programs, and have graduated 62 assistants in the past four years.

The current enrollment in the assistant's programs is less than in the therapists, but when the average number of students enrolled in each class is computed, there are 38 assistants as compared to 32 therapists in each class. (See Table 11). Due to a lower percentage of the first year class expected to graduate, however, the total graduates by 1980 will be 266, less than the therapists.

There is no data available on the employment of graduates.

COUNSELOR, REHABILITATION SERVICES

New programs offering education on counselling are planned, besides the graduate programs for rehabilitation counselor, so they will be discussed in this section. The Master of Arts degree and sixth year professional study programs leading to rehabilitation counselling is available at the University of Connecticut. A bachelor's degree in rehabilitation services is also given at the University of Connecticut. Some of these people may be employed in the capacity of counselor, so these graduates cannot be excluded. A type of continuing education is being offered at Hall-Brooke Hospital Foundation for the first time in family therapy. Mental health professionals are given a twenty-week course teaching family therapy. Finally, an associate degree in alcohol and drug counselling will be awarded by the Connecticut State Department of Mental Health and Manchester Community College. Students receive academic credits for college courses and clinical training at mental health sites. The first class will graduate this year.

All programs responded to the questionnaire, but the continuing education program is not computed in these figures. The data for the two counselors are combined, and the bachelor program data are separate. There have been 42 graduates of the rehabilitation counselor program since 1970, and 71 graduated in rehabilitation services. Enrolled in counselling programs are fifty-six students; enrolled in rehabilitation services are 38 students; 74 percent are women. There will be 211 graduates of the counselling programs and 138 of the rehabilitation services program, giving a total of 349

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Counselor, Rehabilitation (Continued)

graduates, provided the programs remain constant. A first year class of 53 students (drug and rehabilitation counselling) could be admitted each year.

The need for an alcoholism and drug counselor was cited by some employers (see Results of Subjective Section of Employer Questionnaire, Table 7). With the increased emphasis on drug and alcohol problems, these counselors will meet some employer demands.

SPEECH PATHOLOGIST and AUDIOLOGIST

In 1973, legislation was passed to license speech pathologists and audiologists. Graduates of master degree programs or equivalent education and practicing speech pathologists and audiologists meeting the requirements of the "grandfather clause" are eligible for licensure. There are two graduate programs in this state, available at the University of Connecticut, and Southern Connecticut State College. These programs include academic and clinical training. Southern and Central State Colleges additionally offer baccalaureate concentrations in speech. Occasionally, these graduates are employed in the capacity of speech therapists, but since the licensure law (having become effective Oct. 1, 1973), they will be unable to fill speech pathology or audiology positions.

Only one of the graduate programs gave data on the speech pathology program. Forty-four graduates have completed the requirements since 1970, and an equal number are currently enrolled. (See Table 11). The majority (89%) are women. These forty-four will probably graduate by 1975, and another 110 will graduate by 1980. The capacity of these classes has been kept limited to 45 students, but for every opening there are 6.5 applicants.

The graduates of the program were all reported employed, half in Connecticut and half out of state. (See Table C.) According to several sources, all of the Northeast states, except New Hampshire, have master degree programs for speech pathology. (See Northeast section, Table 1.) This large movement out of state by graduates may be due to greater mobility.

Data for the graduates of baccalaureate programs are not reported here due to the generalized nature of the baccalaureate speech therapy programs.

ORTHOTIST and PROSTHETIST

In actuality, orthotist and prosthetists are two distinct occupations; usually, orthotists make and fit corrective devices while prosthetists build and fit artificial limbs. Training is provided through 4 year apprenticeships at Newington Children's Hospital (with sponsorship by the Connecticut State Department of Labor). New national standards have established curricula for two year programs, which Newington Children's Hospital will adopt in 1974.

Through this system, six orthotists and prosthetists have been trained. All six were employed at the children's hospital, where much of this rehabilitation is offered. (See Table C.) There are now 13 male apprentices in training. If the hospital trains five students a year (the average capacity), by 1980 twenty-eight technicians will have completed training. It is possible that Newington Children's Hospital will need the services of most or all of these graduates.

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GRADUATE AND ENROLLMENT DATA FROM RESPONSES OF EDUCATORS TO CHE STUDY

(CIHMR QUESTIONNAIRE OCT. 1973)

TABLE 11

	Current							Perceived Projections		
Occupation Rehabilitation	# known Conn. Programs	# questionnaire Responses	Total Grads 70-73	Total Enrollment 9/73	% Female	# Applicants / capacity of 1st yr.class	% expected to grad. from 1st yr. class	Total grads 74-5	74-80	# of Planned Programs
Physical Therapist	2	2	236	478	unk.	905/120	75	239	697	0
Occupational Therapist	1	1	0	93	95	98/30	80	33	153	0
O.T. Assistant	1	1	68	56	86	105/32	80	56	186	0
Recreation Therapist	2	2	27	130	46	unknown	100	59	344	0
R.T. Assistant	2	2	62	77	unk.	unknown	80	66	266	0
Counselors	3	3	113	94	71.9	unknown	100	84	349	0
Speech Pathologist and Audiologist	2	2	44	44	89	290/45	90	44	154	0
Orthotist and Prosthetist	1	1	6	13	0	5/5	100	3	28	0
Total	14	14	556	985	70.7	unknown	83	584	2177	0

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RESPIRATORY THERAPY

The respiratory therapy group, consisting of respiratory therapists, respiratory therapy technicians and pulmonary function technicians, having changed names from inhalation in 1972, is a rapidly advancing and growing profession. According to AART Standards, respiratory therapists prepare for two years, technicians prepare for one year; pulmonary function technicians generally train on the job. Most of the 2 year therapy programs are offered within colleges, and all of the technician programs are in hospitals.

Based on the responses to the questionnaire, 285 students graduated in respiratory therapy. (See Table 13). Currently 206 students are enrolled in respiratory study and if the programs remain the same, over 800 students will have graduated by 1980. Of the past graduates, 81.3 percent were employed in Connecticut; 3.3 percent did not look for employment and 2.1 percent were unable to find employment. (See Table A).

RESPIRATORY THERAPIST

Programs in respiratory therapy are given at Manchester and Norwalk Community Colleges, Quinnipiac College, St. Raphael's Hospital and Windham Community Memorial Hospital. The colleges award the associate in science degree for two years of academic and clinical training. Western Connecticut State College is proposing a new program, but at this writing, the degree to be awarded is not known.

Since 1970, 120 respiratory therapists have graduated from Connecticut programs of whom seventy-nine percent were employed in Connecticut for the first position; seven percent were employed out of state; nine percent did not seek employment; four and seven tenths percent were unable to find employment. (See Table C).

One hundred seventy students are now enrolled in these four programs. By 1980, these students, plus an additional 429 will have graduated (the proposed program not included). If the trends of past graduates continue, 433 of the graduates continue, 433 of the graduates will be employed in Connecticut, 39 will be employed outside Connecticut.

RESPIRATORY THERAPY TECHNICIAN

Nine hospitals in Connecticut offer respiratory therapy technician education. Some of these programs are limited to training new employees.

Based on six responses to the study, one hundred-sixty five students have completed training over the last four years. Ninety-three percent remained in Connecticut to work, the majority of these worked in the hospital at which they trained; five and seven tenths moved out of state to work.

There are now thirty-six students engaged in technician training, a little over half female, a lower ratio than usual for an allied health occupation. If the size of these six programs remains the same, two hundred fifty-two will graduate as respiratory therapy technicians.

Indications from the employment information are that employers will not be able to accommodate all of the technologists and technicians training in this field. These two occupations bear watching in the future.

GRADUATE AND ENROLLMENT DATA FROM RESPONSES OF EDUCATORS TO CHE STUDY

(CIHMR QUESTIONNAIRE OCT. 1973)

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TABLE 12

Occupation	Current: # known Conn. Programs	# questionnaire Responses	Total Grads 70-73	Total Enrollment 9/73	% Female	# Applicants / capacity of 1st yr. class	% expected to grad. from 1st yr. class	Perceived Projections: Total grads 74-5	74-80	# of Planned Programs
Respiratory Therapy										
Respiratory Therapist	5	4	120	170	unk.	212/76 (3 resp.)	83	154	549	1
Respiratory Therapy Technician	9	6	165	36	55	unknown	95	72	252	0
Total	14	10	285	206	unk.	unknown		226	801	1

TABLE 13

Social Services										
Social Worker	5	5	756	816	74.3			543	1558	0
M.S.W.	1	1	385	482	69	921/130	99	342	902	0
B.S.	4	4	371	334	82	unknown	unknown	201	656	0
Mental Health Worker	7	5	51	125	75	383/73 (4 resp)	66	90	400	0
Social Service Aide	7	4	34	162	70.4	unknown	90	162	572	0
Total	24	19	841	1103	74	unknown	unknown	795	2530	0

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SOCIAL SERVICES

Social Workers, Mental Health Workers, Community Health Aides and Social Service Aides had been typically employed in facilities other than hospitals, but current data has placed many social service personnel within general and veterans administration hospitals, and psychiatric hospitals. Attempts were made to survey all facilities in which these people may be employed.

The requirements for social workers in many instances, call for the master's degree as a minimum; the statute for licensure of social workers, as being considered, recognizes the Master of Social Work (the grandfather clause would require years of experience for the baccalacureate worker). Other requirements only demand a bachelor's degree to fill a social work position. For these reasons, the discussion of social worker has been divided into the master's and bachelor's degree people, and then combined.

A great increase in social service aide and mental health worker graduates is seen, if the popularity for these fields remains the same. Nearly 90 percent of the past graduates in social services were social workers (MSW and BS); 6.1 percent were mental health workers and 4 percent were social service aides. Of the projected numbers of graduates by 1980, 61.6 percent will be social workers (MSW and BS); 15.8 percent will be mental health workers and 22.6 percent will be social service aides. A total of 841 graduates of social service programs matriculated between 1970 and 1973. (See Table 13). By 1975, there will be 795 new graduates, and by 1980, 2530 new social service personnel will have completed requirements.

SOCIAL WORKER, M.S.W.

The University of Connecticut School of Social Work offers the only master's degree in social work in Connecticut. There is no specialty for medical social workers, as such, available. A popular program, 921 students applied for 130 openings, this one to two year course of study provides practical experience in affiliating agencies.

Since 1970, 385 students completed the requirements for the master of social work. (See Table 13). Enrollment is on the increase: 482 are presently enrolled, with 342 expected to graduate in the next two years, nearly as many as graduated over the last four years. The student body is 69 percent female. If the capacity of the program remains the same, 902 graduates will leave the School of Social Work with the master's degree.

No plans for new programs have been suggested to this staff. It is not known what the placement success rate has been for past graduates. Although the course is popular with students, and employers suggest a large increase in the projected employment, any major enlargement of class size could produce an over supply of social workers (MSW).

SOCIAL WORKER, B.S.

The graduates of the baccalaureate programs are more generally entitled "caseworkers" by employers, particularly until some experience has been gained by the employee. With a bachelor of arts degree and a concentration in social worker positions, some graduates are hired directly as social workers.

The four-year undergraduate schools having social work majors are Central Connecticut and Southern Connecticut State Colleges, St. Joseph's College and the University of New Haven. All four schools responded to the questionnaire study, indicating there have been 371 graduates of the programs since 1970. Eighty-two percent of the 334 students enrolled are women; two hundred of whom will graduate by 1975. An additional 455 graduates will leave the programs by 1980.

In order to compare the supply of social workers to the anticipated demand, the entire population must be considered, i.e., MSW's and caseworkers. A total of 756 graduates have

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SOCIAL WORKER, B.S. (Continued)

completed requirements, with an anticipated 1558 more to graduate by 1980.

MENTAL HEALTH WORKER

Prepared by seven programs to work in mental health agencies, clinics and hospitals, mental health workers are generally graduates of academic and internship training. New programs that have started are changing the pattern. Four programs giving the associate degree are located at Housatonic, Mattatuck, and Middlesex Community Colleges and the University of Bridgeport. A 3 year pilot program is operating at the Wheeler Affiliates, for the Community and Child Development Worker, leading to the associate degree; Hall-Brooke Hospital is training workers for specifically working with ex-addicts, and similarly disturbed individuals; and the Connecticut Mental Health Center prepares Mental Health Community Field Aides in one and two year programs.

The Wheeler Affiliate program has only one class enrolled, with graduation expected in 1975; Hall-Brooke will graduate their first class in 1974. All the programs are recent, with the first recorded graduation in 1971. Responses from the three "older" programs accounted for 5 graduates in three years.

Three quarters of the 125 students enrolled in the five responding programs are women. Assuming that the program at Wheeler Affiliates will only train one class, some 400 students will graduate by 1980. There are 383 applicants for the 73 openings in the first year class.

SOCIAL SERVICE AIDE

The curricula which lead to the major in a social service capacity are varied: Housatonic Community College instructs the Urban Professional Assistant, Manchester Community College offers the Public Service major, Norwalk Community College's curriculum is in Human Services. Basically, the direction of these program is the same as the other social service programs at Greater Hartford Community College and Mattatuck Community College, Mitchell College and South Central Community College. All programs culminate in the Associate in Science degree, and many offer internship training as a part of the curriculum.

Of the seven programs, four responded to the questionnaire. The program at South Central Community College is newly opened, expecting their first graduates this year. The three programs responding who have had graduating classes accounted for 34 graduates since 1970. Current enrollment has greatly increased with the addition of new programs, and an increased capacity, standing now at 162; 70 percent female. These 162 are expected to graduate by 1975; an additional 410 are expected to graduate by 1980.

Social Service Aides will probably function in a variety of settings. With the dubious future of some social service agencies, however, employment prospects may not be good. With health care facilities looking towards more out-patient and preventive care, social service aides may be utilized to a greater extent in the health field.

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SURGICAL TECHNICIAN

Seven of the eight surgical technician programs in Connecticut are given in hospitals; one is offered at Manchester Community College. A student at Manchester has two options; to study for one year and earn a certificate, or continue for another year for the associate degree. The hospital schools have a standard one year program.

The response from five programs yielded one hundred-twelve graduates. (See Table 14). Nearly 92% of these were employed in Connecticut, the majority in the institution where they had trained. Six and three tenths found employment outside Connecticut. (See Table C). Now 35 students are pursuing surgical technician careers, 30 of whom are women. (See Table 14). If these programs continue current enrollment, 245 technicians will be trained by 1980. The response from three programs indicates there are nearly 10 applicants of every one of the 12 openings. This information indicates there is no shortage of persons seeking to become surgical technicians.

GRADUATE AND ENROLLMENT DATA FROM RESPONSES OF EDUCATORS TO CHE STUDY

(CIHMR QUESTIONNAIRE OCT. 1973)

TABLE 14

	Current							Perceived Projections		
Occupation	# known Conn. Programs	# questionnaire Responses	Total Grads 70-73	Total Enrollment 9/73	% Female	# Applicants / capacity of 1st yr. class	% expected to grad. from 1st yr. class	Total grads 74-5	74-80	# of Planned Programs
Surgical Technician	8	5	112	35	74	unknown	75	70	245	0

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BIOMEDICAL ENGINEER, M.S.

Biomedical engineering is a specialty which frequently requires a Master of Science or Doctor of Philosophy degree. Very few of the biomedical engineers are employed in the facilities surveyed, but these would not be the major employer of the engineer.

Rensselaer Polytechnic Institute offers the Master of Science degree in Engineering Science with a specialization in biomedical engineering in cooperation with Trinity College. Courses and faculty at both institutions are shared to provide for this specialization.

There are a very small number of students involved in the R.P.I.-Trinity Major. One student has completed the requirements for the Master of Science; three students are currently enrolled. (See Table 15). At the current rate of enrollment, it is estimated that eight graduates will complete the course of study by 1980.

Additional majors in biomedical research are available at the University of Connecticut which were not reported. Most of these professionals are employed in universities and other researching facilities rather than in health care facilities.

GRADUATE AND ENROLLMENT DATA FROM RESPONSES OF EDUCATORS TO CHE STUDY

(CIHMR QUESTIONNAIRE OCT. 1973)

TABLE 15

Occupation	Current							Perceived Projections		
	# known Conn. Programs	# questionnaire Responses	Total Grads 70-73	Total Enrollment 9/73	% Female	# Applicants / capacity of 1st yr.class	% expected to grad. from 1st yr. class	Total grads 74-5	74-80	# of Planned Programs
Biomedical Engineer, M.S.	1	1	1	3	unkn.	unknown	unknown	3	8	0

CLINICAL PSYCHOLOGIST, Ph.D.

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In Connecticut, all psychologists must be licensed through a formal examination procedure. The only institution offering the Doctor of Philosophy degree in psychology is the University of Connecticut at Storrs. Some of the Northeast states do not operate psychology graduate courses, among them New Hampshire, New Jersey, Pennsylvania and Rhode Island. (See Northeast section, Table 1). Connecticut's graduate level program participates in the New England Regional Student Program, administered by the New England Board of Higher Education, offering the psychology major to residents of New Hampshire.[6]

The U-Conn. program takes from four to five years to complete, including clinical experience. Thirty-one students have completed the courses in the last four years. (See Table 16) All graduates found employment in their field of study; eighty-seven percent went out of the state and thirteen percent stayed in Connecticut to practice. (See Table C.) Except for the one medical transcription student who left the state, this is the highest proportion of the reviewed graduates to leave the state for employment.

There is a current enrollment of 49 students, of whom 16 are women. The size of the classes is small, having a capacity of ten for each first year class. The program reported 550 applicants for admission in the fall of 1973. With this small number of acceptances, the anticipated number of graduates by 1980 will be 72. If the out-of-state migration trends remain the same, 63 of those graduates will leave the state, and only 9 clinical psychologists will be added to the state supply over the next six years.

GRADUATE AND ENROLLMENT DATA FROM RESPONSES OF EDUCATORS TO CHE STUDY

(CIHMR QUESTIONNAIRE OCT. 1973)

TABLE 16

	Current							Perceived Projections		
Occupation	# known Conn. Programs	# questionnaire Responses	Total Grads 70-73	Total Enrollment 9/73	% Female	# Applicants / capacity of 1st yr.class	% expected to grad. from 1st yr. class	Total grads 74-5	74-80	# of Planned Programs
Clinical Psychologist	1	1	31	49	33	550/10	100	22	72	0

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PHARMACIST

The School of Pharmacy at the University of Connecticut offers a five-year program for the Bachelor of Science degree. In the Northeast, all states except Maine and New Hampshire offer pharmacy degrees, baccalaureate and graduate. (See Northeast section, Table 1). Pharmacists in Connecticut must be licensed through examination after completion of a bachelor of science program and one year of practical experience.

Over the last four years, 257 graduates have completed the U-Conn program. (See Table 17). The majority of these students were men, bur according to the School of Pharmacy, an increased number of women are entering the field. The placement data about the graduates shows 93 percent of the graduates were employed and 7 percent did not seek employment. (See Table C). The majority of those working stayed in Connecticut (58.2%).

The current enrollment stands at 554 students, 32% of whom are women. Assuming a constant enrollment in this program, up to 529 graduates will have matriculated by 1980. Only 50 percent of the freshmen enrolled are expected to graduate in pharmacy, probably due to a change in majors, a phenomenon which occurs when freshmen enroll in a specific school.

Since this survey did not include private pharmacies, the principal employers of pharmacists, the future demand for these graduates will not be complete in this report. Based on the past success of graduates in finding employment, it is not suspected that an oversupply will occur.

GRADUATE AND ENROLLMENT DATA FROM RESPONSES OF EDUCATORS TO CHE STUDY

(CIHMR QUESTIONNAIRE OCT. 1973)

TABLE 17

	Current							Perceived Projections		
Occupation	# known Conn. Programs	# questionnaire Responses	Total Grads 70-73	Total Enrollment 9/73	% Female	# Applicants / capacity of 1st yr.class	% expected to grad. from 1st yr. class	Total grads 74-5	74-80	# of Planned Programs
Pharmacist	1	1	257	554	32	402/175	50	155	529	0

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-NOTES-

[1]U.S. Department of Labor Job Descriptions and Organizational Analysis for Hospitals and Related Health Services. U.S. Government Printing Office, Washington, D.C. 1970, p. 2.

[2]Ibid., p. xiv.

[3]Ibid.

[4]Connecticut Institute for Health Manpower Resources 1973 Directory of Connecticut Education and Training Programs in the Health Occupations; Health Careers in Connecticut. Hartford, Connecticut, 1973, p. ii.

[5]National League for Nursing State-Approved Schools of Nursing - R.N. Pub. Number 19-1439, New York, 1972, pp. 15-17.

[6]New England Board of Higher Education The New England Regional Student Program, Graduate Level 1974/75, Massachusetts, p. 25.

RESULTS OF
THE SUBJECTIVE SECTION OF THE EDUCATOR QUESTIONNAIRE

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INTRODUCTION:

In Part II educators are asked for information more subjective in nature than the numbers called for in Part I. The questions were aimed at eliciting opinions and perceptions rather than hard facts. This soft information taken into account with the other data collected, hopefully will give a more complete picture of the situation in health education.

The questions covered the following topics:

- Future plans re: health programs in educational institutions
- Availability and utilization of formal and informal placement services in educational institutions
- Follow-up kept by placement services
- The type of employer using placement services
- Perceived major barriers to education and training

Questionnaires were mailed to 98 institutions and in addition personal interviews were conducted with a selected sample of these institutions. In some cases where many health programs were offered, such as at Yale or the University of Connecticut, individual questionnaires were sent to appropriate schools and/or departments.

The results were hand tabulated. Responses were reviewed and categories were developed. If a respondent gave more than one answer to a question, i.e., plans to expand in one area, but delete in another area at the same school, both items were entered.

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QUESTION: Pertaining to health occupation programs, please enumerate any future plans for expansion, consolidation or deletion. (Include the year of planned change, and a description of any new programs that may be implemented.)

ANSWER:

Kinds of Institutions	# of Institutions Surveyed	# of Questionnaires mailed**	Response to Survey #	Response to Survey %*	Considering Expansion/ Addition of Health Programs #	Considering Expansion/ Addition of Health Programs %*	Planning Deletion/ Consolidation of Health Programs #	Planning Deletion/ Consolidation of Health Programs %*	No Plans For Change #	No Plans For Change %*	No Answer or answer not Applicable #	No Answer or answer not Applicable %*
High School Boards of Education	29	29	22	75%	10	34%	0	0	7	24%	12	41%
Voc. Techs	15	15	15	100%	6	40%	1	6%	5	33%	3	20%
Two year Public Schools												
Community Colleges	12	12	12	100%	9	75%	2	17%	2	16%	0	0
Technical Colleges	4	4	4	100%	3	75%	0	0	0	0	1	25%
Two-year Private Colleges	5	6	6	100%	1	16%	0	0	5	31%	0	0
4-year Public Colleges/ Universities ***	6	22	22	100%	6	29%	1	4%	8	38%	7	31%
4-year Private Colleges/ Universities	17	19	19	100%	8	42%	0	0	10	52%	1	5%
Proprietary Schools	6	6	4	66%	0	0	0	0	3	50%	1	16%
Other	4	4	3	75%	0	0	0	0	3	75%	1	25%
Totals	98	117	107	90%	43	36%	4	3%	43	36%	26	22%

A variety of types of schools are planning to add to or expand existing health programs. Seventy-five percent, (9 schools) of the 2 year public schools have such plans while only 17% (2 schools) plans deletion or consolidation of program. High schools, voc. techs, 2-year private, and four-year public and private all have greater plans for expansion/addition than consolidation/deletion. A greater percentage of 2-year private, 4-year private and public and "other" plan "no change" than are planning expansion, however. Overall it looks as if educational institutions are considering increasing health occupation programs in numbers rather than diminishing them, with community colleges planning the greatest increase.

* The percentage expressed is the number of responses divided by the number of questionnaires sent out in each category of institution.

** In some cases more than one questionnaire was sent to one institution, i.e., when several departments offered different programs.

*** The category includes U.S. Coast Guard Academy and University of Connecticut.

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CIHMR January 1974
Responses from Educators

CONTEMPLATED PLANS FOR ADDITION OR EXPANSION OF HEALTH OCCUPATIONS PROGRAMS WITH YEAR INDICATED
AS REPORTED BY EDUCATIONAL INSTITUTIONS

Programs and Courses	High Schools 73-74	High Schools 74-75	High Schools 75-76	High Schools NYG*	Voc. Techs. 73-74	Voc. Techs. 74-75	Voc. Techs. 75-76	Voc. Techs. NYG*	2-yr. Public 73-74	2-yr. Public 74-75	2-yr. Public 75-76	2-yr. Public NYG*	State Tech. Schools 73-74	State Tech. Schools 74-75	State Tech. Schools 75-76	State Tech. Schools NYG*	2-yr. Private 73-74	2-yr. Private 74-75	2-yr. Private 75-76	2-yr. Private NYG*	4-yr. Public 73-74	4-yr. Public 74-75	4-yr. Public 75-76	4-yr. Public NYG*	4-yr. Private 73-74	4-yr. Private 74-75	4-yr. Private 75-76	4-yr. Private NYG*	Proprietary 73-74	Proprietary 74-75	Proprietary 75-76	Proprietary NYG*	Other 73-74	Other 74-75	Other 75-76	Other NYG*	TOTAL
Health Occupations Overview	1	1	1				2				1																										8
Allied Health Coordinator																							1														1
Allied Health M.S.																							1														1
Health Care Administrator																							1														1
Health Systems Analyst B.S.																						1															1
Management Science (cont'g ed.)																							1														1
Dental Hygienist						1	1																														2
Dental Technologist																							1														1
Dental Laboratory Technician															1																						1
Dental Assistant								1																													1
Dietary Technician											1																										1
Food Administration																											1										1
Medical Technologist											1				1																						2
Medical Microbiologist																									1												1
Nuclear Medicine Technician											1																										1
Cytologist																						1															1
Medical Technician											1																										1
Bio-electronic Technician																											1										1
Medical Record Technician											1																										1
Nurse B.S.																											3										3
Nurse A.D.									1	1	2																										4
Nursing M.S.																							1				1										2
Licensed Practical Nurse							3																														3
Nurse Aide	1		1																																		4
Nurse refresher (cont'g ed.)											1																										1
Occupational Therapist																							1														1
Therapeutic Recreator																					1		1														2
Art Therapist																									1												1
Respiratory Therapist											1										1																2
Lens and Glass Technician															1																						1
Computer Medical Technician															1																						1
Biomedical Equipment Technician															1																						1
Optician Technician													1																								1
Surgical Technician													1																								1
Veterinary Assistant/ Technician										1			1																								2
Emergency Medical Services									1									1									1										3
Physician Assistant in Pathology																											1										1
Emergency Room Technician										1																											1
Biological Photographer												1																									1
Medical Illustrator												1																									1
Pharmacy																											1										1
Medical Secretary												1																									1
Dental Secretary												1																									1
TOTAL																																					68

*No Year Given

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The preceding is a listing of health occupations programs contemplated by educational institutions in Connecticut. The most frequently mentioned category of program is "health occupations." At the high school level it is conceived of as an overview program allowing students a "hands on experience" in the health field. Post-secondary and graduate programs are more sophisticated but the "overview" concept remains the same. A variety of other courses are being contemplated some of which are not being offered in Connecticut at present, i.e., optician technician, medical illustrator, and biological photographer. Most of the new programs are being tentatively proposed by the 2-year public colleges. Indication has been given by several technical colleges of offering courses such as in lens and glass, computer medical science and dental lab technician. At present only one health related course is being offered at a state technical college.

Introduction of nursing programs at all levels is tentatively planned by educational institutions in Connecticut; nurse aide, licensed practical nurse, associate degree nurse, baccalaureate nurse, master level nurse and a nurse refresher course. Some of these programs would incorporate innovative ideas such as allowing non-nurses with bachelor's degrees to take a Masters program leading to a Masters in Nursing (proposed by Yale). Other institutions would allow nurses who have gained their education in one type of setting (i.e., Diploma school) to enter an academic program with academic credits granted for their education and experience. Several vocational-technical schools which do not now offer licensed practical nurse courses have the physical facilities and equipment to include these programs in their curriculum. Several schools pointed to their need for better job market information before specific programs could be offered in their regions.

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QUESTION: Does your institution have a formal placement service?

ANSWER:

Kinds of Institutions	Yes	No	No Answer or Answer Not Applicable	b. How long has your placement service been operating? 0-5	5-10	10-15	15-20	20+	c. Do students use placement service? Never	Rarely	Occas.	Freq.	Always	d. Time service may be used by grads. Indefinite	Some Limit	e. Do you keep follow-up data on your grads? Yes	No
High School Boards of Education	4	15	10	3	0	0	0	0	0	0	2		1	3	1	0	3
Voc. Techs.	2	9	4	0	1	0	0	0	0	0	0	1	2	3	0	1	2
Two-year Public Schools																	
Community Colleges	5	6	1	4	1	0	0	0	0	0	3	1	0	3	0	1	1
Technical Colleges	3	0	1	0	1	1	0	1	0	0	0	3	1	3	0	3	0
Two-year Private Colleges	1	0	5	0	0	0	0	1	0	0	0	1	0	1	0		1
4-year Public Colleges/ Universities	16	2	4	1	1	2	0	7	1	0	3	8	1	11	1	4	3
4-year Private Colleges/ Universities	9	5	5	4	2	2	0	2	1	0	2	5	1	9	0	4	6
Proprietary Schools	2	0	4	0	1	0	0	1	0	0	0	2	0	2	0	0	2
Other	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	42	37	38	12	7	5	0	12	2	0	10	21	6	35	2	13	18

Forty-two of the 117 respondents have formal placement services. Twelve have been operating for 20 or more years and 12, 5 years or less. The majority of institutions with placement services reported "frequent" or "always" use by students. In all but 2 instances, students or graduates could use the service indefinitely. Placement services apparently are well used by students and the longevity of some of the services indicates that the institutions feel them to be valuable.

QUESTION: If you do not have a formal placement service, do you have any informal methods of placement for graduates of health programs? Please describe.

Do you have informal placement? if yes, type of informal placement.

Responses from Educators

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ANSWER:

Kinds of Institutions	Yes	No	No Answer or Answer Not Applicable	Guidance Dept.	Faculty	Advisory Comm.	Bulletin Board/ File	Chairman of Dept. or Dir. of Program
High Schools	14	1	14	6	11	2	1	1
Voc. Techs	8	0	7	1	6	0	1	1
2-yr. Public								
Community Colleges	5	2	5	0	2	0	1	3
State Tech. Schools	0	0	4	0	0	0	0	0
2-yr. Private	1	0	5	0	0	0	0	0
4-yr. Public Colleges/ Universities	8	3	11	0	3	0	4	4
4-yr. Private Colleges/ Universities	5	1	13	1	3	0	1	1
Proprietary	0	0	6	0	0	0	0	0
Other	0	0	4	0	0	0	0	0
Totals	41	7	69	8	29	2	11	12

Forty-one of the institutions responding described informal placement by key individuals, i.e., department chiarmen who have contacts with employers and students. It was mentioned that employers will call, write or send recruiters to the campus to find suitable candidates for employment. Bulletin boards, loose leaf notebooks or files may be kept of these requests to which students have access. In the case of high schools, members of "advisory committees" may help match students with jobs.

Two nurse training institutions mentioned a course given in the senior year covering "Trends and Services" in nursing. Although this is not formal placement, job opportunities and directions are discussed as a program component.

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QUESTION: Do you receive requests from employers regarding graduates of health occupations programs to fill job vacancies?

ANSWER:

Kinds of Institutions	Never	Rarely	Occasionally	Frequently	No Answer or Answer not Applicable
High School	0	4	11	6	8
Voc. Techs	0	1	2	7	5
2-yr. Public					
Community College	0	1	5	6	0
State Tech.Schools	0	0	0	0	4
2-yr. Private	0	0	0	1	5
4-yr. Public	1	3	5	3	10
4-yr. Private	0	3	1	6	9
Proprietary	0	0	0	0	0
Other	0	0	0	0	0
Totals	1	12	24	29	41

When asked how often requests from employers would come into the institution, the largest number (29) check off "frequently". Our data from educational institutions indicates students utilize both formal and informal methods of placement and employers do contact the school regarding graduates whether formal placement exists for not.

QUESTION: In general, from what types of employers do you receive these requests?

ANSWER:

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Kinds of Institutions	Hospitals				Extended Care Facilities				Private Phys. or Dentists' office				Industry				Health Service Organizations				Other			
	Never	Rarely	Occas.	Freq.	Never	Rarely	Occas.	Freq.	Never	Rarely	Occas.	Freq.	Never	Rarely	Occas.	Freq.	Never	Rarely	Occas.	Freq.	Never	Rarely	Occas.	Freq.
High Schools	3	3	10	3	0	3	9	6	3	3	2	1	8	1	1	0	7	1	4	0	0	0	3	0
Voc. Techs.	0	1	5	3	1	1	2	5	0	2	6	2	4	0	1	0	3	1	2	0	1	0	0	1
2-yr. Public Community Colleges	0	1	3	1	1	0	2	0	0	0	6	0	1	0	3	0	0	0	3	0	0	0	1	0
State Tech. Schools	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2-yr. Private	0	2	1	2	2	0	1	0	1	2	0	1	2	0	1	0	0	2	1	1	0	0	1	0
4-yr. Public	0	4	6	6	1	8	3	2	5	4	3	0	2	6	3	0	1	5	5	3	0	1	4	5
4-yr. Private	0	1	4	2	2	2	2	1	2	2	0	2	1	2	3	0	1	2	1	2	0	1	2	1
Proprietary	0	1	0	1	0	1	1	0	0	0	0	2	0	2	1	1	0	1	1	0	0	0	0	0
Totals	3	13	29	18	7	15	20	14	11	13	17	7	18	11	13	1	12	12	17	6	1	2	11	7

Hospitals and extended care facilities are the most likely type to contact institutions regarding the employment of graduates. Industry is least likely to make a request to the school. Private physicians and health service organizations are frequent users of the service. Types of institutions covered by our "other category" include educational institutions, schools of nursing, the Military, Day Care Centers, Social Welfare agencies and clinics.

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Responses from Educators

QUESTION: In your opinion, what are the major barriers to training or employment in the fields for which you have programs?

ANSWER:

	Perceived Barriers to Employment				Perceived Barriers to Education					
	Information Barriers				Coordination Barriers					
Kinds of Institutions	Lack of community understanding of occupation or program	Lack of job market information	Financial barriers	Lack of openings	Lack of coordination among schools and/or clinical facilities	Lack of opportunity for mobility in occupation	Lack of transportation to clinical site	Financial barriers	Other	No barriers felt
High Schools	2	0	0	2	7	4	4	1	3	2
Voc. Techs.	2	0	0	1	1	4	1	3	1	3
2-yr. Public Community Colleges	1	0	1	3	1	0	0	3	1	0
State Tech. Schools	0	0	0	0	0	0	0	0	0	0
2-yr. Private	0	0	0	0	0	0	0	0	0	0
4-yr. Public Colleges/ Universities	3	2	2	4	1	0	0	4	2	1
4-yr. Private Colleges/ Universities	1	2	0	1	2	1	0	5	1	0
Proprietary	0	0	0	0	0	0	0	0	0	1
Other	0	0	0	0	0	0	0	0	0	0
Totals	9	4	3	11	12	9	5	16	8	7

The following represents a sample of individual responses from the educational institutions to question 6. (Direct quotes)

- "A real need to provide, in addition to the convalescent home clinical experience, similar experience in a hospital."
- "It's a continual worry as to whether we can continue a cooperative program with a general hospital."
- "Major Barriers To Training

1. Conflicting professional philosophies on appropriate auxiliary utilization.

2. Accreditation, licensure and admissions standards are barriers to flexibility.
3. Tuition - Private Institutions
4. Cost of up-dating clinical facilities
5. Legislation for the practice of dental hygiene differs among the 50 states "

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- " Major Barriers To Employment

1. Lack of employment security and benefits
2. Question of manpower needs versus demands
3. Distribution of employment opportunities
4. Professional mobility
5. Sexism and Racism"

- "Major barriers in Medical-Technology are the increasing numbers wishing to prepare as the hospital schools close down. Both internship and follow-up employment now lag behind the numbers who wish to enter the field."
- "Many of employers are unaware of the rehabilitation counselor specialty."
- "The radiation Technology and Therapy programs produce too many practitioners in the Connecticut area."
- "As regards child care workers, many schools are unaware of the training these people receive."
- "The major barrier to training of Health Professionals is the lack of adequate clinical training facilities. The problem has worsened as the cost of health care rises. The pressure to reduce hospital and other medical costs will be reflected in reduced educational budgeting in the clinical area."
- 'The lack of coordinated planning among educational institutions (both private and public) is another area of concern. No new allied health programs should be approved without demonstrated need, otherwise overproduction such as in Radiological Technology leads to lessened employment opportunities. The development of a Master Plan is needed. Such a plan should provide long-term commitments by clinical and other health occupations institutions as well."
- " The lack of a 'central clearing house' for job opportunities in the State in the health occupations fields is another barrier to proper planning of program."
- 'Need for financial assistance to expand equal opportunities for minority students. Need for subsidy to college to underwrite expensive allied health programs."

RESULTS OF PART II
THE SUBJECTIVE SECTION OF THE EMPLOYER QUESTIONNAIRE
RE: EDUCATIONAL PROGRAMS

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INTRODUCTION:

Information from health care providers who also provide educational programs is a necessary part to complete the supply picture in our state. Information requested on the several areas is summarized as follows:

- policies regarding hiring of graduates
- follow-up on graduates
- purposes for initiation of training programs
- cooperation with educational institutions
- plans for expansion/addition or consolidation/deletion of program
- major barriers to training or employment in the health field

The section of the questionnaire having to do with education was included in the mailing to all hospitals and extended care facilities. Forty institutions responded that they offered educational programs. Personal interviews were also conducted on a selected sample of facilities.

Tabulation of responses to Part II - Subjective Section was done by hand. After reviewing the questionnaire, categories of answers were developed appropriate to the question. Thirty-four of the 40 health care facilities responded to this portion of the questionnaire. If more than one program were offered by a facility, the respondent might give separate answers for each program, for example; a health care facility would be willing to have a neighboring educational institution provide the academic portion for a radiologic technician program, but not the nursing program. In such instances, responses may add up to more than the 34. This happened in only a few cases, however.

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PART II OF QUESTIONNAIRE-SUBJECTIVE SECTION

QUESTION: For each program, do you have a policy regarding the hiring of your graduates? (For example, do your graduates automatically get preference over other applicants, or do you routinely hire at least 50 percent of your graduates?).

ANSWER:	Policy	Number of responses
	• Institution only trains those already employed (on-the-job training)	5
	• Institutions give graduates of their own programs preference for available openings.	19
	• Institutions hiring as many graduates of own program as are willing to stay.	5
	• Institutions showing no preference for own graduates over other applicants.	3
	• No answer or answer not applicable	2
	Total	34

QUESTION: Do you keep any follow-up data on your graduates other than those requested on Page 2? Yes____ No____. If yes, please describe the data and the form they are in.

ANSWER:		
	• Yes, follow-up is kept.	9
	• No, follow-up is not kept.	23
	If follow-up is kept it is usually because graduate is employed at that institution	
	• No answer or answer not applicable	2
	Total	34

QUESTION: a. What were your purposes for initiating your training programs? (Be specific for each program if necessary).

ANSWER:

Purposes given	Number of responses
• To fulfill hospital need for personnel.	26
• To fulfill need in community for educational program.	9
• To fulfill need in the community for trained personnel.	7
Total	42

More than one purpose given in some instances by one respondent.

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b. Do you feel these original purposes are being fulfilled or are there new reasons for continuing the programs? Please explain in detail.

• Yes	22
• No	6
• No answer or answer not applicable	6
Total	34

c. If you could arrange for a neighboring educational institution to provide the academic portion for your programs, would you close this portion of your programs in your own institution? Yes_____ No_____. If no, why not? If yes, under what conditions?

• Yes	24
• No	12
Total	36

Health Care Provider Responses

Number of responses

Twice as many facilities would be willing to cooperate with educational institutions as those who would not.

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Conditions required for cooperation:

- Fair input into setting up of program by health facility. 2
- Maintenance of high standards. 4
- Reduction of cost to health care facility. 1

Respondents who declined to work out such an arrangement gave reasons as:

- Desire for the facility to train specifically for its own needs 6
- Bad past experience with the institutions. 1

Five institutions said such a satisfactory cooperative arrangement already exists.

QUESTION: Pertaining to health occupation programs, please enumerate any future plans for expansion, consolidation or deletion. (Include the year of planned change, the extent of the change, and a description of any new programs that may be implemented.)

ANSWER:

- Institutions planning expansion/addition. 4
- Institutions planning deletion/consolidation. 11
- Institutions planning new affiliation with educational institutions. 5
- No answer or answer not applicable. 4

Total 34

Health Care Provider Responses

QUESTION: What in your opinion are the major barriers to training or employment in the fields for which you have programs?

ANSWER:

	Number of responses
• Financial considerations, i.e. costs involved in sponsoring programs	10
• Oversupply in specific occupations.	6
• Community doesn't understand occupation or how to utilize graduates.	4
• Need for better trained faculty.	2
• Need for upward mobility in occupation.	2
• Need for better coordination between health care facility and educational institution.	2

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The following represents a sample of responses from Health Care Providers that initiate educational programs - Direct quotes:

- Re: Radiological tech. "No standardized method of school of training - Market is flooded."
- "Only those who want 'days only', part-time, or limit their range of participation to certain special types of cases will hit barriers."
- Re: Nurse aide "Lack of recognition and career ladder opportunities."
- "Funding, impending regulations, red tape."
- "Funding problems of potential employing agencies."
- "Oversupply of many health organizations due to lesser patient days in hospital overall in Connecticut and decreased turnover rate relative to late 1960's."

- "Less turnover in all cover areas are resulting in less openings for individuals being trained."
- "Lack of appropriate placement sources."
- "There is probably no real manpower shortage in Connecticut. There are a few incidences of geographical distribution, but that is a 64$ question in all professional fields."
- "Until hospital-based education is recognized for its full academic worth we will have a campus battle. Why do we need to shift to the campus if we can justify need and cost?"

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DISCUSSION OF PART II - EDUCATIONAL QUESTIONNAIRE

Differing patterns emerged from the responses of educators and health care providers who sponsored educational programs. The former have few plans for discontinuing programs and seem to be looking toward expansion of health programs as the way of the future. The latter group, however, has been and is continuing to close down programs with few plans for initiating new programs. While the majority of health care facilities stated they initiated educational programs to fulfill need for personnel, other reasons given are: providing educational resource for the community (including special programs for the disadvantaged); providing trained health manpower to serve the community. The hiring policies toward graduates emphasize that hospitals are training far more than their own personnel needs. Nineteen of thirty-four health care facilities show only preference for hiring their own graduates; only five will hire all those who are willing to stay.

Pressure to reduce costs is a factor attributed to the elimination of hospital programs. However, it was expressed by a number of health care facilities that they would be willing to have the educational institution assume the didactic instruction if the curriculum would be jointly developed. This cooperative program development would assure clinical placements.

Some perceived barriers to employment and training common to both education facilities and health care providers have been identified in the study.

1. Financial barriers were most frequently cited as reductions in:
   - funds available for running programs
   - subsidization of education programs by state and federal sources
   - financial aid to students
   - funds for community health services resulting in hiring cutbacks

2. Lack of community understanding of some of the health professions was reported as:
   - unutilized skills because the employer not informed of level or kind of training employee possesses, resulting in inefficient utilization of staff and job dissatisfaction
   - incomplete understanding of new occupations and/or changing emphasis in established occupations on the part of students, guidance counselors, and other members of the community

3. Lack of job mobility is an issue because of the:
   - limited opportunity for individuals to receive formal credit for skills acquired on the job or from previous educational programs when entering more advanced programs

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-unavailability of work-study progams or programs responsive to the schedules of working mothers

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4. Lack of reliable job market data is a constant problem. A centralized information system would be helpful to both educational and health facilities in planning as well as the job-seeking graduate. Information already kept as follow-up on graduates of health programs and success of placement by college placement services may be the core of such an information system. Some institutions keep excellent follow-up information on graduates such as Manchester Community College which has collected data since 1970, while others have done little in this area. To have comparable information on the local, regional, and state levels, uniformity of data collected and methodology of collection must be decided upon. Such a system might give a more accurate picture of the pipeline- who stays in Connecticut, who works in the field trained for, who works in another field, or who does not enter the employment arena at all. A record of employers' use of placement services could provide demand information.

PART I

CONNECTICUT INSTITUTIONS OFFERING HEALTH-RELATED PROGRAMS INCLUDING TWO AND FOUR YEAR PUBLIC AND PRIVATE COLLEGES, UNIVERSITIES GRADUATE SCHOOLS, VOCATIONAL-TECHNICAL SCHOOLS, PROPRIETARY SCHOOLS, STATE AGENCIES, HEALTH CARE FACILITIES (HOSPITALS, NURSING HOMES, CLINICS AND AGENCIES), AND PRIVATE INDUSTRY. PLUS HIGH SCHOOLS

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NOTES

[1] Program has been approved by the appropriate accrediting agency. For details concerning specific professions (e.g. medical technology, inhalation therapy, etc.) please consult PART II. The reader should not, however, assume that the absence of specific information on accreditation reflects unfavorably on any given program or institution. In some instances the school or program is new and accreditation in pending. In other cases the profession does not have an accrediting organization or the information may not have been available before printing deadlines.

[2] Program is in-house training given to new employees. Not all institutions submitted this type of information for the directory, so the reader should note that this list is not complete.

[3] Additional graduate programs available. For complete information contact school.

INSTITUTION	HEALTH OCCUPATION PROGRAM	CONTACT NAME	CONTACT TELEPHONE
HENRY ABBOT REGIONAL TECHNICAL VOCATIONAL SCHOOL Hayestown Road Danbury 06810	Licensed Practical Nurse[1]	J. Wild, Jr.	743-5573
AETNA LIFE AND CASUALTY INSURANCE COMPANY 151 Farmington Avenue Hartford 06105	Dietetic Internship[1]	BEST COPY AVAILABLE	273-0123
ALBERTUS MAGNUS COLLEGE 700 Prospect Street New Haven 06511	Art Therapist (proposed Jan. 1974)[1] Child Care Worker		777-6631
WILLIAM W. BACKUS HOSPITAL 326 Washington Street Norwich 06360	Radiologic Technologist[1]		889-7361
BRIARWOOD SCHOOL FOR WOMEN 2279 Mount Vernon Road Southington 06489	Dental Assistant (proposed program) Medical Assistant, Executive Medical Assistant Medical Secretary, Executive Medical Secretary		
BRIDGEPORT HOSPITAL 267 Grant Street Bridgeport 06602	Nurse Anesthetist[1] Nurse, Diploma[1] Nursing Aide[2] Radiologic Technologist[1] Respiratory Therapy Technician Surgical Technician Ward Clerk	M.J. Jannell	384-3464
BRISTOL HOSPITAL Brewster Road Bristol 06010	Radiologic Technician[1]	L. Mitchell	589-2000
BULLARD-HAVENS REGIONAL VOCATIONAL TECHNICAL SCHOOL 500 Pallisades Avenue Bridgeport 06610	Licensed Practical Nurse	J. Staltari	336-4453

INSTITUTION	HEALTH OCCUPATION PROGRAM	CONTACT NAME	TELEPHONE
CENTRAL CONNECTICUT STATE COLLEGE 1615 Stanley Street New Britain 06050	Medical Technologist Nurse, Bachelor program for R.N. Nurse, B.S. Degree in Nursing Education (Health Educator) Social Work (B.A.) Speech Therapist (B.A.) Teacher, Special Education (B.S. and M.S.)	Admissions Office	225-7481
CONNECTICUT ACADEMY OF DENTAL TECHNOLOGY 111 West Washington Street South Norwalk 06856	Dental Laboratory Technician		838-0286
CONNECTICUT STATE DEPARTMENT OF HEALTH 79 Elm Street Hartford 06115	Emergency Medical Technician - Ambulance Food Services Supervisor (pilot program) Homemaker - Home Health Aide[2] Laboratory Assistant[2] Mental Retardation Aide[2] Public Health Program Assistant Public Health Screening Aide Recreation Program Director	A. Nissi M. Gravink D. Mullin	566-4445 566-3985
CONNECTICUT STATE DEPARTMENT OF MENTAL HEALTH 90 Washington Street Hartford 06115	Alcohol and Drug Counselor (Pilot program)	Apply to Community Colleges	
CONNECTICUT MENTAL HEALTH CENTER 34 Park Street New Haven 06508	Mental Health Community Field Aide	K. Nash	772-3300 x321
CONNECTICUT COLLEGE Route 32 New London 06320	Pre-medical program for minority students		442-5391
DANBURY HOSPITAL Hospital Avenue Danbury 06810	Nursing Aide[2] Radiologic Technologist[1] Surgical Technician[1]	C. Schanze	744-2300
EASTERN CONNECTICUT STATE COLLEGE 83 Windham Street	Medical Technologist Nurse, Bachelor Program for R.N.	Admissions Office	423-4581

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INSTITUTION	HEALTH OCCUPATION PROGRAM	CONTACT NAME	TELEPHONE
FAIRFIELD HILLS HOSPITAL P.O. Box W Newtown 06476	Psychiatric Aide[2]	L. Heck	426-3531
FAIRFIELD UNIVERSITY North Benson Road Fairfield 06430	Nurse, B.S. Degree Teacher, Special Education (Masters degree, 6th year certificate)	J. Barone	255-5411
E.C. GOODWIN REGIONAL VOCATIONAL TECHNICAL SCHOOL 735 Slater Road New Britain 06053	Licensed Practical Nurse[1]	E. Phaneuf	225-7863
GRACE-NEW HAVEN SCHOOL OF NURSING 25 Park Street New Haven 06504	Nurse, Diploma[1] (Program to be discontinued in 1975)	M. Archibald	436-3335
GREATER HARTFORD COMMUNITY COLLEGE 34 Sequassen Street Hartford 06106	Child Care Worker Medical Records Technician Medical Secretary Medical Transcriptionist Nurse, A.S. Degree (proposed 1975) Social Service Aide	B. Heiman R.K. Chaturvedi L. Tutherly L. Tutherly G. Rehm	549-2000
GREENWICH HOSPITAL Perryridge Road Greenwich 06830	Nurse, Diploma[1] (Program to be discontinued in 1975)	C. Mulcahy	869-2000
HALL-BROOKE FOUNDATION	Counselor, Family Therapy Mental Health Worker (Alcohol and Drug Counselor)	M. Olanoff, M.D. L. Berman, M.D.	227-1251
HARTFORD HOSPITAL 80 Seymour Street Hartford 06115	Community Health Aide Cytotechnologist[1] Medication Technician Medical Laboratory Assistant[1] Nurse, Diploma[1] (Phasing out in 1973) Nurse Practitioner, Adult Medicine Ambulatory Care (pilot project) Radiologic Technologist[1] Respiratory Therapy Technician	A. Griswold C. Crudi E. Sholtz Nursing Ed. Dept. W. Rice	524-2886 524-2616 524-2613 524-2613

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INSTITUTION	HEALTH OCCUPATION PROGRAM	CONTACT NAME	TELEPHONE
HARTFORD SECRETARIAL SCHOOL 19 Woodland Street Hartford 06105	Medical Secretary	G.M. Fox	522-2888
HOUSATONIC COMMUNITY COLLEGE 510 Barnum Avenue Bridgeport 06608	Child Care Worker (A.S. and Certificate Programs)	E. Keane	366-8201
	Health Care Administrator	J. Shive	
	Medical Laboratory Technician	J. Onorato	x 357
	Occupational Health and Safety Technician (proposed program)		
	Social Service Worker (Urban Professional Assistant)	E. Keane	
INSTITUTE OF LIVING 400 Washington Street Hartford 06106	Psychiatric Aide[2]	D. Moorhouse	278-7950
W.F. KAYNOR REGIONAL VOCATIONAL TECHNICAL SCHOOL 43 Tompkins Street Waterbury 06708	Licensed Practical Nurse[1]	J.J. Mills	754-4188
LAUREL HEIGHTS HOSPITAL Shelton, 06480	Nursing Aide[2]	M. Santarsiero	734-2593
LAWRENCE AND MEMORIAL HOSPITAL 365 Montauk Avenue New London 06320	Certified Laboratory Assistant[1]	P. Parella	442-0711
	Nurse, Anesthetist[1] (Discontinued in 1974)		
	Nurse, Diploma[1] (Discontinued in 1976)	F. O'Connell	
	Radiologic Technologist[1]	P. Parella	
	Respiratory Therapist[1] (Inhalation Therapist)	E. Fulchiero	
MANCHESTER COMMUNITY COLLEGE 60 Bidwell Manchester 06040	Dental Assistant (proposed program)	M.D. Fenton	646-4900
	Dental Office Administration	L. Caputo	
	Emergency Medical Technician (proposed program)		
	Medical Laboratory Technician	R. Dixon	
	Medical Office Administration	L. Caputo	

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INSTITUTION	HEALTH OCCUPATION PROGRAM	CONTACT NAME	TELEPHONE
MANCHESTER COMMUNITY COLLEGE (Cont'd) 60 Bidwell Manchester 06040	Occupational Therapy Assistant[1] Respiratory Therapist Social Service Aide Surgical Technician[1] Veterinary Assistant (proposed program)	J. Small M.D. Fenton E.D. Coltman R. Dixon	
MANCHESTER MEMORIAL HOSPITAL 71 Haynes Street Manchester 06040	Radiologic Technologist[1]	D. Mikolowsky	646-1222
MASONIC HOME AND HOSPITAL Box 70 Wallingford 06492	Nursing Aide[2]	A. McCloskey	265-0931
MATTATUCK COMMUNITY COLLEGE 236 Grand Street Waterbury 06702	Child Care Worker Medical Secretary Mental Health Worker Nurse, A.S. Degree Radiologic Technologist Social Service Aide	T. Houle R. Litro T. Houle M. Isleib A. Vitarelli T. Houle	757-9661
MERIDEN-WALLINGFORD HOSPITAL 181 Cooke Avenue Meriden 06450	Dietetic Aide[2] Electrocardiograph Technician[2] Medical Laboratory Assistant Nurse, Diploma[1] Radiologic Technologist[1]	J. Sullivan	238-0771
MIDDLESEX COMMUNITY COLLEGE Hunting Hill Avenue Middletown 06457	Environmental Health Technician Medical Secretary Mental Health Worker Occupational Health and Safety Technician (proposed program) Radiologic Technologist[1]	Admissions Office	347-7411
MIDDLESEX MEMORIAL HOSPITAL 28 Crescent Street Middletown 06457	Nurse, Diploma[1] Nursing Aide[2]	M. Heath Personnel Office	347-9471

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INSTITUTION	HEALTH OCCUPATION PROGRAM	CONTACT NAME	CONTACT TELEPHONE
MILFORD HOSPITAL 2047 Bridgeport Avenue Milford 06460	Electrocardiograph Technician[2] Respiratory Therapy Technician[2] (Inhalation Therapy Technician)	E. Van Derwerker	878-3551
MITCHELL COLLEGE 436 Pequot Avenue New London 06320	Social Service Aide	Admissions Office	443-2811
MOHEGAN COMMUNITY COLLEGE Norwich 06360	Child Care Worker Nurse, A.S. Degree	A. Gruber	889-3391
MOUNT SINAI HOSPITAL 500 Blue Hills Avenue Hartford 06112	Radiologic Technologist[1]	L. Gejda, R.T.	243-1441
NEW BRITAIN GENERAL HOSPITAL 100 Grand Street New Britain 06052	Nurse Anesthetist[1] Nurse, Diploma[1] Nursing Aide[2] Radiologic Technologist[1] Respiratory Therapy Technician[1] (Inhalation Therapy Technician) Surgical Technician	W. Giertz S. Bachand J. Batogowski L. Doucette D. Egan J. Leupold	224-5266 224-5604 224-5592 224-5556 224-5253
NEW MILFORD HOSPITAL 21 Elm Street New Milford 06776	Nursing Aide[2]		354-5531
NEWINGTON CHILDREN'S HOSPITAL 181 East Cedar Street Newington 06111	Orthotist and Prosthetist	M. Wallace	666-2461
NORTHWESTERN CONNECTICUT COMMUNITY COLLEGE Park Place East Winsted 06098	Child Care Worker Environmental Health Technician Medical Secretary Recreation Therapy Assistant Registered Nurse Program (In cooperation with Central Connecticut State College)	Admissions Office F. Pallotti J. Boulden J. McCarthy Admissions Office	379-8543

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INSTITUTION	HEALTH OCCUPATION PROGRAM	CONTACT NAME	TELEPHONE
NORWALK COMMUNITY COLLEGE 333 Wilson Avenue Norwalk 06854	Child Care Worker Nurse, A.S. Degree[1] Nurse, Refresher Course Respiratory Therapist (Inhalation Therapist) Social Service Aide (Human Service Curriculum)	Admissions Office	853-2040
NORWALK HOSPITAL 24 Stevens St. Norwalk 06856	Nurse, Diploma (Discontinued in 1974) Nursing Aide[2] Ward Clerk (Unit Clerk)	A. Martin B. Schraft	838-3611
NORWALK STATE TECHNICAL COLLEGE 181 Richards Avenue Norwalk 06854	Environmental Health Technician		838-0601
NORWICH HOSPITAL Rt. 12 Box 508 Norwich 06360	Psychiatric Aide	D. Douglas	889-7361
NORWICH REGIONAL VOCATIONAL TECHNICAL SCHOOL 590 New London Turnpike Norwich 06360	Licensed Practical Nurse[1] (Practical Nurse Education)	J. Rooke	889-8453
PARK CITY HOSPITAL 695 Park Avenue Bridgeport 06604	Nursing Aide[2] Radiologic Technologist[1] Respiratory Therapy Technician[2] (Inhalation Therapy Technician) Ward Clerk[2]	J. Jacobs	386-0201
POST JUNIOR COLLEGE 800 Country Club Road Waterbury 06708	Child Care Worker Emergency Medical Technician (proposed program) Medical Secretary Recreation Therapy Assistant	A. Troy	755-0121

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INSTITUTION	HEALTH OCCUPATION PROGRAM	CONTACT NAME	CONTACT TELEPHONE
A.I. PRINCE REGIONAL VOCATIONAL TECHNICAL SCHOOL 500 Brookfield Street Hartford 06106	Dental Assistant Licensed Practical Nurse[1]	E.J. Kelly, Jr.	246-8594
QUINEBAUG VALLEY COMMUNITY COLLEGE P.O. Box 449, Danielson 06239	Medical Secretary	E. Hagstrom	774-4246
QUINNIPIAC COLLEGE School of Allied Health and Natural Sciences 445 New Road Hamden 06518	Clinical Chemist Clinical Microbiologist Cytotechnologist Environmental Health Technologist Health Services Administrator Laboratory Animal Technologist Medical Laboratory Science (Master Program) Medical Secretary Medical Technologist Nurse, A.S. Degree[1] Occupational Therapist Physical Therapist Physician's Assistant in Pathology Radiation Therapy Technologist Radiologic Technologist Respiratory Therapist	S. Sweeting I.J. Payne I.J. Payne H. Levine S. Knapp I.J. Payne M. Flannery I.J. Payne R. Schendler R. Griffin H. Potts I.J. Payne S. Bernstein S. Bernstein S. Bernstein	288-5251 x454
RENSSELAER POLYTECHNIC INSTITUTE 275 Windsor Street Hartford	Biomedical Engineer, M.S.		549-3600
ST. FRANCIS HOSPITAL 114 Woodland Street Hartford 06105	Nurse Anesthetist[1] Nurse, Diploma[1] Radiologic Technologist[1] Respiratory Therapy Technician[1] (Inhalation Therapy Technician)	E. Colton, M.D. Sister Dennis Marie E. Sennett, M.D. T. Godar, M.D.	548-4000

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INSTITUTION	HEALTH OCCUPATION PROGRAM	CONTACT NAME	TELEPHONE
ST. JOSEPH COLLEGE 1678 Asylum Avenue West Hartford 06117	Dietitian Social Worker (B.A.) Teacher, Special Education (B.A., M.A. and 6th year certificate) Nurse, Registered (B.S.)	N. Konefal Sister Maria Joan J. Cassell	232-4571
ST. JOSEPH'S HOSPITAL 128 Strawberry Hill Avenue Stamford 06904	Certified Laboratory Assistant[2] Dietetic Aide[2] Electrocardiograph Technician[2] Electroencephalograph Technician[2] Medical Secretary[2] Nursing Aide Pulmonary Function Technician[2] Radiologic Technologist[1] Respiratory Therapy Assistant[2] (Inhalation Therapy Assistant) Ward Clerk[2]	A. Guido	327-3500
ST. MARY'S HOSPITAL (as reported in 1972) 56 Franklin Street Waterbury 06702	Nurse Anesthetist[1] Nurse, Diploma[1] Nursing Aide[2] Radiologic Technician[1] Respiratory Therapy Technician (Inhalation Therapy Technician) Surgical Technician	A. McCarthy	756-8351
ST. RAPHAEL HOSPITAL (as reported in 1972) 1450 Chapel Street New Haven 06511	Nurse Anesthetist[1] Nurse, Diploma[1] (closing in 1976) Nursing Aide[2] Radiologic Technologist Respiratory Therapist[1] (Inhalation Therapist)	R. Benfer	772-3900
ST. VINCENT'S HOSPITAL 2820 Main Street Bridgeport 06606	Nurse, Diploma[1] Nursing Aide[2] Radiologic Technologist[1] Surgical Technician	A. Kerbelis J. Johnson L. Rosati J. McCarthy	334-1081
SHARON HOSPITAL W. Main Street Sharon 06069	Medical Laboratory Technician Nursing Aide (Temporarily discontinued)	F. Campbell B. McLane	364-5511

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INSTITUTION	HEALTH OCCUPATION PROGRAM	CONTACT NAME	CONTACT TELEPHONE
SOUTH CENTRAL COMMUNITY COLLEGE 111 Whitney Avenue New Haven 06510	Child Care Worker Dental Assistant Dental Laboratory Technician Dietetic Technician Licensed Practical Nurse Medical Secretary (Discontinued) Nuclear Medicine Technologist Radiation Therapy Technologist Radiologic Technologist Social Service Aide (Human Service Aide)	Admissions Office	772-3472
SOUTHERN CONNECTICUT STATE COLLEGE 501 Crescent Street New Haven 06515	Health Educator Nurse, B.S. Degree Recreation Therapist (B.A.,M.A.) Social Worker (B.A.) Speech Pathologist and Audiologist Teacher, Special Education	J.L. Ainsworth E. Raymond P. Lang E. Erway C.J. DeProspo	397-2101
STAMFORD HOSPITAL 190 West Broad Street Stamford 06902	Nurse, Diploma[1] (To be discontinued 1976) Nursing Aide[2] Radiologic Technologist[1]	D. Szczech M. Viebrock R. Welch	327-1234
TUNXIS COMMUNITY COLLEGE P.O. Box 159 Farmington 06032	Dental Hygienist, A.S. (proposed program) Medical Secretary Nurse, A.S. (proposed program)	Admissions Office	677-7701
TWIN PINES CONVALESCENT HOME North Star Route New Milford 06776	Nursing Aide[2]	E. Baird, Admin.	354-5336
UNCAS-ON-THAMES HOSPITAL Thames Street Norwich 06360	Nursing Aide[2]	P. Johnson	889-1321

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INSTITUTION	HEALTH OCCUPATION PROGRAM	CONTACT NAME	TELEPHONE
UNIVERSITY OF BRIDGEPORT 219 Park Avenue Bridgeport 06602	Dental Hygienist, A.S. Dental Hygienist, B.S. Dental Hygiene Education Environmental Health Technologist Health Educator Medical Secretary Medical Technologist Mental Health Worker Nurse, A.S. Nurse, B.S.	Admissions Office M. Topalis M. Topalis	384-0711
UNIVERSITY OF CONNECTICUT Admissions Office Storrs 06268	College of Agriculture and Natural Resources Pre-veterinary Medicine	Admissions Office	429-3311
	School of Allied Health Professions Dietitian, Clinical Medical Technologist Physical Therapist	P. Fitz L. Gordon J. Bauer	486-2835 486-2834 486-2834
	School of Business Administration Health Care Administrator[4] Health Systems Analyst and Planner (Temporarily discontinued)	Admissions Office	429-3311
	School of Education Health Educator Recreation Therapist, B.S., M.S. (Ph.D. proposed) Teacher, Special Education[3]	J. [illegible]ives S. Shaw	486-3623 486-4034
	School of Engineering Biological Engineer, M.S.	R. Northrup	486-2233
	College of Liberal Arts and Sciences Clinical Psychologist Counselor, Rehabilitation Services, M.A. Rehabilitation Services, B.A. Speech Pathologist and Audiologist, M.A.	W. Burr E. Wicas J. Rabenstein G.R. Powers	486-4000 486-4034 486-4032 486-2817

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INSTITUTION	HEALTH OCCUPATION PROGRAM	CONTACT NAME	TELEPHONE
UNIVERSITY OF CONNECTICUT (Cont'd)	School of Nursing		
	Nurse, B.S.	J. Vlandis	486-3137
	Nurse, M.S.	J.E. Hayes	486-4729
	Continuing Education for RNs		
	School of Pharmacy		
	Pharmacist[3]	A.E. Schwarting	486-2128
UNIVERSITY OF CONNECTICUT Greater Hartford Campus West Hartford 06117	School of Social Work Social Worker, M.S.W.[1]	Admissions Office	523-4841
UNIVERSITY OF CONNECTICUT HEALTH CENTER Farmington 06032	Dentist[1]	P. Levine, D.D.S.	674-2714
	Physician[1]	W. Fleeson, M.D.	
UNIVERSITY OF CONNECTICUT 2 Holcomb Street Hartford 06112	University-McCook Hospital Pediatric Nurse Associate	J. Danielson	243-2531
UNIVERSITY OF HARTFORD 200 Bloomfield Avenue West Hartford 06117	Bachelor's Degree for R.N.	Admissions Office	523-4811
	Medical Technologist	E. Swain	
	Nurse, B.S. (proposed program)		
	Teacher, Special Education	D. Geller	
UNIVERSITY OF NEW HAVEN 300 Orange Avenue New Haven 06516	Environmental Health Technologist	H. Wright	934-6321
	Occupational Health and Safety Technician (Occupational Safety and Hygiene)		
	Social Welfare Worker	F. Eikaas	
VETERANS ADMINISTRATION HOSPITAL 555 Williard Avenue Newington 06111	Nursing Aide[2]	E. Wade	666-4631
VETERANS ADMINISTRATION HOSPITAL West Spring Street West Haven 06516	Nursing Aide[2]	M. Malic	933-2561

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INSTITUTION	HEALTH OCCUPATION PROGRAM	CONTACT NAME	TELEPHONE
VINAL REGIONAL VOCATIONAL TECHNICAL SCHOOL 60 Daniels Street Middletown 06457	Licensed Practical Nurse[1]	K. Hampton	346-9667
WESLEYAN UNIVERSITY Middletown 06457	Environmental Health Technologist	J.W. Peoples	347-9411
WESTERN CONNECTICUT STATE COLLEGE 181 White Street Danbury 06180	Health Educator Medical Technologist Nurse, B.S. Degree Respiratory Therapist (Inhalation Therapist) (proposed program)	G. Braun G. Braun R. Kohl	792-1400
ELI WHITNEY REGIONAL VOCATIONAL TECHNICAL SCHOOL 71 Jones Road Hamden 06514	Dental Assistant Dental Laboratory Technician Licensed Practical Nurse[1] Medical Laboratory Technician (proposed program) Medical Secretary (proposed program)	P. Leahy	387-2563
H.C. WILCOX REGIONAL VOCATIONAL TECHNICAL SCHOOL Oregon Road Meriden 06450	Licensed Practical Nurse (proposed program)	R. Dorsey	235-6316
WINDHAM COMMUNITY MEMORIAL HOSPITAL 112 Mansfield Avenue Willimantic 06226	Nursing Aide[2] Radiologic Technologist[1] Respiratory Therapist	B. Lane L.R. Lustig G. Jones	423-9201 x 365
WINDHAM REGIONAL VOCATIONAL TECHNICAL SCHOOL 210 Birch Street Willimantic 06226	Dental Assistant Licensed Practical Nurse[1]	J. Sagan	423-4544

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INSTITUTION	HEALTH OCCUPATION PROGRAM	CONTACT NAME	TELEPHONE
OLIVER WOLCOTT REGIONAL VOCATIONAL TECHNICAL SCHOOL 73 Oliver Street Torrington 06790	Health Services Occupations (Grades 9-12)		489-0261
J.M. WRIGHT REGIONAL VOCATIONAL TECHNICAL SCHOOL Scalzi Park Stamford 06904	Dental Assistant Licensed Practical Nurse[1]	R. Lawseby V. Benedosso	324-7363
YALE-NEW HAVEN HOSPITAL (as reported in 1972) 789 Howard Avenue New Haven 06504	Cytotechnologist[1] Dietetic Internship[1] Nursing Aide[2] Radiologic Technologist[1] Respiratory Therapy Technician[1] (Inhalation Therapy Technician) Surgical Technician Ward Clerk[2]	Personnel Office	436-4771
YALE UNIVERSITY 333 Cedar Street New Haven 06520	School of Medicine Physician[1] Physician's Associate	Admissions Office P. Moson	432-4580 436-4900
	Department of Epidemiology and Public Health Biostatistician, M.P.H.[3] Environmental Health, M.P.H.[3] Epidemiologist, M.P.H.[3] Health Services Administrator, M.P.H.[3]	R.W. McCollum	436-3236
	School of Nursing Nursing, M.S.N.[3] Nurse Midwife Pediatrics Public Health Psychiatric	Admissions Office	436-3781

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ANSONIA
Ansonia High
Nursing Aide

BLOOMFIELD
Bloomfield High
Nursing Aide

BRANFORD
Branford High
Nursing Aide

BRIDGEPORT
Bassick High
Nursing Aide

Central High
Nursing Aide

Harding High
Nursing Aide

DANBURY
Danbury High
Nursing Aide

DERBY
Derby High
Nursing Aide

ENFIELD
Enfield High
Nursing Aide

Fermi High
Nursing Aide

FARMINGTON
Farmington High
Nursing Aide

GROTON
Fitch Senior High
Nursing Aide

GUILFORD
Guilford High
Animal Technician
Nursing Aide

HAMDEN
Hamden-New Haven Cooperative Center
Nursing Aide

HARTFORD
Bulkeley High
Nursing Aide

Hartford High
Nursing Aide

Weaver High
Nursing Aide

HEBRON
Rham High
Regional District 8
Nursing Aide

LITCHFIELD
Wamogo Regional High School
Regional District 6
Nursing Aide

MANCHESTER
Manchester High
Nursing Aide

MERIDEN
Maloney High
Nursing Aide

Platt High
Nursing Aide

NEW BRITAIN
New Britian High
Nursing Aide

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NEW HAVEN
- Wilbur Cross High
  - Animal Technician
  - Laboratory Technician
  - X-Ray Technician
- Hillhouse High
  - Laboratory Technician
  - Nursing Aide
- Lee High
  - Animal Technician
  - Laboratory Technician
  - Nursing Aide

NORTH HAVEN
- North Haven High
  - Nursing Aide

NORWALK
- Brien McMahon
  - Nursing Aide

NORWICH
- Norwich Free Academy
  - Nursing Aide

OLD SAYBROOK
- Old Saybrook High
  - Nursing Aide

RIDGEFIELD
- Ridgefield High
  - Nursing Aide

SHELTON
- Shelton High
  - Nursing Aide

SOUTHINGTON
- Southington High
  - Nursing Aide

STAMFORD
- Stamford High
  - Nursing Aide
- Rippowam High
  - Nursing Aide
- West Hill High
  - Nursing Aide

THOMASTON
- Thomaston High
  - Nursing Aide

TRUMBULL
- Trumbull High
  - Nursing Aide

WALLINGFORD
- Lyman Hall High
  - Nursing Aide

WASHINGTON
- Shepaug Valley High School
  Regional District 12
  - Nursing Aide

WATERBURY
- Crosby High
  - Allied Health Occupations
- Wilby High
  - Allied Health Occupations

WATERTOWN
- Watertown High
  - Nursing Aide

WEST HAVEN
- West Haven High
  - Nursing Aide

WINDSOR
- Windsor High
  - Nursing Aide

WINDSOR LOCKS
- Windsor Locks High
  - Nursing Aide

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OCCUPATION	INSTITUTING AGENCY	ACADEMIC/CLINICAL AFFILIATES	NATURE OF PROGRAM	ENTRANCE REQUIREMENTS	AVERAGE CLASS SIZE	TUITION AND FEES	STIPEND OR WAGE	CREDENTIALS EARNED
BIOLOGICAL ENGINEER	University of Connecticut		For complete information contact school					Master of Science Degree
BIOMEDICAL ENGINEER 041.081	Rensselaer Polytechnic Institute		For complete information, contact school					Master of Science Degree
BIOSTATISTICIAN (Biometrician) 020.188	Yale University, Department of Epidemiology and Public Health	Contact Institution	2 years of graduate training in the application of statistical and mathematical methods to problems in areas of epidemiology and public health	Bachelor's Degree		Without dorm: $3,400 yearly	Contact School	Master of Public Health Degree
CERTIFIED LABORATORY ASSISTANT* (Medical Laboratory Assistant) 078.381	Hartford Hospital*	Manchester Community College	12 months of academic and laboratory training	H.S. Diploma	12-16	With dorm: $820 yearly Without dorm: $300 yearly	$60 per month for last 9 months	Diploma
	Lawrence and Memorial Hospital*	None	12 months of academic, laboratory and on-the-job training	H.S. Diploma	4	None Dormitory facilities available	$50-136 per month	None
	Meriden-Wallingford Hospitals*	None	12 months of academic and laboratory training	H.S. Diploma	4	None Dormitory facilities not available	None	Certificate

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	St. Joseph Hospital	None	On-the-job training	H.S. Diploma	Individual Instruction	None Dormitory facilities not available	$440 per month	None

*Programs identified by asterisk are approved by the Council on Medical Education of the American Medical Association, 535 N. Dearborn Street, Chicago, Ill. 60610 in collaboration with the American Society of Clinical Pathologist, 710 S. Wolcott Avenue, Chicago, Ill. 60612, and the American Society of Medical Technologist, Hermann Professional Bldg., Houston, Tex. 77025 and listed in the American Hospital Association's Guide To The Health Care Field (August, 1972).

CHILD CARE WORKER 359.878	Albertus Magnus College		4 year program. For complete information, contact school.					
	Greater Hartford Community College	None	For program description, contact admissions office	H.S. Diploma		$130 per semester	None	Associate in Science Degree
	Housatonic Community College	None	2 year academic program	H.S. Diploma		$130 per semester	None	Associate in Science Degree
	Mattatuck Community College	Child Care Centers and Social agencies	2 year academic program	H.S. Diploma		$133 per semester	None	Associate in Science Degree
	Mohegan Community College		2 year program (proposed)	H.S. Diploma		$130 per semester	None	Associate in Science Degree
	Northwestern Community College	None	2 year academic program	H.S. Diploma		$130 per semester	None	Associate in Science Degree
	Norwalk Community College	None	2 year academic program	H.S. Diploma and/or Equivalent		$160 plus fees per semester	Scholarships and loans thru Admission Office	Associate in Science Degree
	Post Junior College	For complete information, contact school						Associate in Science Degree
	South Central Community College	None	2 year academic program	H.S. Diploma		$130 per semester	None	Associate in Science Degree

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OCCUPATION	INSTITUTING AGENCY	ACADEMIC/CLINICAL AFFILIATES	NATURE OF PROGRAM	ENTRANCE REQUIREMENTS	AVERAGE CLASS SIZE	TUITION AND FEES	STIPEND OR WAGE	CREDENTIALS EARNED
CLINICAL CHEMIST 041.081 (Biochemist)	Quinnipiac College School of Allied Health and Natural Sciences	Hartford Hospital, Yale-New Haven Hospital, St. Raphaels' Hospital	4 years of academic and 1 year of clinical training	H.S. Diploma		With dorm: $2,750 yearly Without dorm: $2,100 yearly	None	Bachelor of Science Degree
CLINICAL MICROBIOLOGIST 041.081	Quinnipiac College School of Allied Health and Natural Sciences	An approved affiliated diagnostic center	4 years of academic and 1 year of clinical training	H.S. Diploma	5	With dorm: $2,750 yearly Without dorm: $2,100 yearly	None	Bachelor of Science Degree
CLINICAL PSYCHOLOGIST 045.108	University of Connecticut	Various health agencies	4 to 5 year graduate program	Bachelor's Degree	10-12	Instate: $352 per semester Out-of-state $602 per semester	None	Doctor of Philosophy Degree
COMMUNITY HEALTH AIDE	Hartford Hospital	One year program. For complete information, contact hospital						
COUNSELOR, ALCOHOL AND DRUG (pilot program)	Conn. State Dept. of Mental Health	Manchester Community College	2 years total 39 college credits 22 credits at training center	H.S. Diploma (may be waived)	25	$243.75 to Manchester	None	Associate in Arts Degree
COUNSELOR, FAMILY THERAPY	Hall-Brooke Hospital	None	20 week program for mental health professionals to teach family therapy with a distinct clinical approach	Mental Health Professions	30	$25.00	None	None

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COUNSELOR, REHABILITATION SERVICE 045.108	Unniversity of Connecticut School of Education	None	1 year program leading to M.A. (36 credits) 2nd year program leading to Professional Diploma	Bachelor's Degree		In-state: $704 tuition and fees		Doctor of Philosophy Degree
CYTOTECHNOLOGIST* 078.281	Hartford Hospital*	None	12 month program includes 6 months academic and 6 months laboratory training	60 college credit hours (12 in biology)	4-6	None Dormitory facilities available	None	Certificate
	Quinnipiac College School of Allied Health and Natural Sciences	Hospital schools of cytotechnology in Conn, Mass, Maryland, New Jersey, New York, Rhode Island, Vermont	2 years of academic and 1 year of clinical training	H.S. Diploma	25-35	With dorm: $2,750 yearly Without dorm: $2,100 yearly	Depends on clinical affiliation	Associate in Science Degree
	Yale-New Haven Hospital*	Yale University	12 month program includes both academic and clinical training	2 years of college	8	Contact hospital	Contact hospital	Certificate
		HOSPITAL SCHOOLS Norwalk Hospital*						Certificate

*All programs listed are approved by the Council on Medical Education of the American Medical Association, 535 N. Dearborn Street, Chicago, Ill. 60612, in collaboration with the Board of Schools of Medical Technology of the American Society of Clinical Pathologist, 710 S. Wolcott Avenue, Chicago, Ill. 60612 and included in the American Hospital Association's Guide To The Health Care Field.

DENTAL ASSISTANT (Dental Technician) 079.378	Briarwood School for Women (proposed program)	For complete information, contact school						
	Manchester Community College (proposed 1974)	Tunxis Community College	15 month program	H.S. Diploma Selective	25	$141.50 per semester Dormitory facilities not available	None	Certificate

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OCCUPATION	INSTITUTING AGENCY	ACADEMIC/CLINICAL AFFILIATES	NATURE OF PROGRAM	ENTRANCE REQUIREMENTS	AVERAGE CLASS SIZE	TUITION AND FEES	STIPEND OR WAGE	CREDENTIALS EARNED
DENTAL ASSISTANT (Contd)	A.I. Prince Regional Vocational Technical School	Hartford Dental Clinic and Hartford and St. Francis Hospitals	10 month program of academic, laboratory and on-the-job training	H.S. Diploma	20	None	None	Certificate
	South Central Community College	Eli Whitney Regional Vocational Technical School, Hamden, Ct.	For complete information, contact school. Eli Whitney Training is granted 30 credits towards A.S. Degree	H.S. Diploma		$141.50 for each of two semesters	None	Associate in Science Degree
	Eli Whitney Regional Vocational Technical School	Loeb Dental and V.A. Dental Clinics	10 month program of academic, laboratory and on-the-job training	H.S. Diploma	25	None	None	Certificate
	Windham Regional Vocational Technical School	Regional Dental Facilities	Same as above	H.S. Diploma	25	None	None	Certificate
	J.M. Wright Regional Vocational Technical School	Stamford Dental Clinic and Stamford Hospital	Same as above	H.S. Diploma	20	None	None	Certificate
DENTAL HYGIENIST (Prophylactician) 078.368	Tunxis Community College (proposed 1975)		For complete information, contact school					
	University of Bridgeport Junior College*	Fairfield County Schools, Bridgeport, Dinan and Park City Hospitals and other community agencies.	2 years of academic and clinical learning	H.S. Diploma	90	With dorm: $3,250 yearly Without dorm: $1,950 yearly	None	Associate in Science Degree
	University of Bridgeport*	Unniversity of Connecticut Dental School, Yale-New Haven Hospital and various dental facilities	4 years of academic and clinical learning	H.S. Diploma		With dorm: $3,300 yearly Without dorm: $2,050 yearly	None	Bachelor of Science Degree

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Programs listed are approved by the Council on Dental Education of the American Dental Association, 211 E. Chicago Avenue, Chicago, Ill. 60611 and included in the American Hospital Association's Guide To The Health Care Field (August, 1972)

DENTAL LABORATORY TECHNICIAN 712.381	Connecticut Academy of Dental Technology		For complete information, contact school.					
	South Central Community College	Eli Whitney Regional Vocational Technical School	For complete information, contact school. Eli Whitney training is granted 30 credits towards A.S.Degree	H.S. Diploma		$14.50 for each of two semesters	None	Associate in Science Degree
	Eli Whitney Regional Vocational Technical School	None	Academic and laboratory training in all phases of dental technology including use of specialized equipment	H.S. Diploma	15	None Dormitory facilities not available	None	Certificate
DENTAL OFFICE ADMINISTRATION 69.168	Manchester Community College	None	One academic year	H.S. Diploma or equivalent	20	$141.50 per semester Dormitory facilities not available	None	Certificate
DENTIST* 72.108	University of Connecticut Health Center*		4 years of academic, laboratory and clinical training	Bachelor's Degree	32	$950 yearly Dormitory facilities not available	None	Doctor of Dental Medicine Degree

Program listed is approved by the Council on Dental Education of the American Dental Association, 211 E. Chicago Avenue, Chicago, Ill. 60611.

DIETETIC AIDE 18.887	Meriden-Wallingford Hospital	On-the-job training	On-the-job training For employees only	None	Individual Instruction	None	$404 per month	None
	St. Joseph Hospital	None	On-the-job training For employees only	None	Individual Instruction	None	$406.25	None
DIETETIC TECHNICIAN 79.588	South Central Community College		2 year academic program	H.S. Diploma	29	$141.50 per semester	None	Associate in Science Degree

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OCCUPATION	INSTITUTING AGENCY	ACADEMIC/CLINICAL AFFILIATES	NATURE OF PROGRAM	ENTRANCE REQUIREMENTS	AVERAGE CLASS SIZE	TUITION AND FEES	STIPEND OR WAGE	CREDENTIALS EARNED
DIETITIAN* 077.168 or 077.128	St. Joseph College	Gengras Center School for Exceptional Children. Various health agencies	4 years of academic and laboratory training	H.S. Diploma	15-20	With dorm: $3,120 yearly Without dorm: $1,800 yearly	None	Bachelor of Arts Degree
	University of Connecticut School of Allied Health Professions	Various health agencies	4 years of academic and laboratory training (Clinical Dietitian)	H.S. Diploma	29	With dorm: $925 per semester Without dorm: $320 per semester	None	Bachelor of Science Degree
ELECTROCARDIOGRAPH TECHNICIAN 078.368 (e. k. g. technician)	Meriden-Wallingford Hospital	None	On-the-job training For employees only	H.S. Diploma	1-2	None	Contact hospital	None
	Milford Hospital	None	On-the-job training For employees only	None	Individual Instruction	None	$100 per week	None
	St. Joseph Hospital	None	On-the job training For employees only	H.S. Diploma	Individual Instruction	None	$440 per month	None
ELECTROENCEPHALOGRAPH TECHNICIAN 078.368 (e.e.g technician)	St. Joseph Hospital	None	On-the-job training For employees only	H.S. Diploma	Individual Instruction	None	$440 per month	None
EMERGENCY MEDICAL TECHNICIAN - Ambulance 355.878 or 913.883	Connecticut State Department of Health - Coordinator	Several Connecticut hospitals and community colleges	71 hours of academic and 10 hours of clinical training	Currently employed ambulance attendant	20-40	$20 Beginning date of program varies	None	Certificate

*Internships in dietetics are provided by Aetna Life and Casualty Insurance Company in Hartford (with emphasis on food service administration) and Yale-New Haven Hospital (with emphasis on hospital food service administration and nutrition). Both internships have been accredited by the American Dietetic Association, 620 N. Michigan Avenue, Chicago, Ill. 60611 and listed in the American Hospital Association's Guide To The Health Care Field (August, 1972).

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	Manchester Community College (proposed program)		For complete information, contact school - to be determined					
	Post Junior College (proposed program)		same as above					
ENVIRONMENTAL HEALTH SCIENCE 012.081	Yale University, Department of Epidemiology and Public Health	Various Connecticut health agencies and institutions	2 years of academic and field training in environmental health sciences and environmental control management	Bachelor's Degree		$3,200 yearly Without dorm	Contact school	Master of Public Health Degree
ENVIRONMENTAL HEALTH TECHNICIAN 078.318	Northwestern Connecticut Community College	For complete information, contact school	2 years of academic and 3 months on-the-job training	H.S. Diploma		$133 per semester	None	Associate in Science Degree
	Norwalk State Technical College		Program designed to develop technical knowledge and skills for careers in environmental protection and control					Associate Degree
	Middlesex Community College	For complete information, contact school	2 years of academic training	H.S. Diploma		$133 per semester	None	Associate in Science Degree
ENVIRONMENTAL HEALTH TECHNOLOGIST 078.118	Quinnipiac College School of Allied Health and Natural Sciences	Various Connecticut health agencies	4 years of academic training in ecology and environmental health and a summer internship	H.S. Diploma	15	With dorm: $2,750 yearly Without dorm: $2,100 yearly	None	Bachelor of Science Degree
	University of Bridgeport		For complete information contact school					
	University of New Haven	For complete information, contact school	4 years of academic training in biological and physical sciences. Areas of specialization: air, water quality control; community health	H.S. Diploma (with exceptions)		With dorm: $1,635 yearly subject to increases	Contact school	Bachelor of Arts Degree

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OCCUPATION	INSTITUTING AGENCY	ACADEMIC/CLINICAL AFFILIATES	NATURE OF PROGRAM	ENTRANCE REQUIREMENTS	AVERAGE CLASS SIZE	TUITION AND FEES	STIPEND OR WAGE	CREDENTIALS EARNED
EPIDEMIOLOGIST	Yale University, Department of Epidemiology and Public Health	For complete information, contact school	2 years of academic and field training concerning factors influencing human health and diseases. Several areas of specialization available	Bachelor's Degree		Without dorm: $3,400 yearly	Contact school	Master of Public Health Degree
FOOD SERVICE SUPERVISOR (Pilot Program)	Conn. State Dept. of Health		90 hours training for extended care facility personnel. For complete information contact department		30			Certificate
HEALTH CARE ADMINISTRATOR 187.118	Housatonic Community College	Bridgeport Hospital, St. Joseph's Manor, Methodist Conv. Home	2 years of academic and internship training	H.S. Diploma	35	$133 per semester Dormitory facilities not available	None	Associate in Science Degree
	Unniversity of Connecticut School of Business Administration	Connecticut Association of Extended Care Facilities	For complete information, contact school		40	$270		Academic Credits
Also refer to HEALTH SERVICES ADMINISTRATOR								
HEALTH EDUCATOR 079.118	Central Connecticut State College	For complete information, contact school	Nurse Teacher Education. Designed to prepare R.N.'s to teach					Bachelor of Science Degree
	Southern Connecticut State College	Public school systems and area health agencies	4 years of academic training including supervised student teaching	H.S. Diploma	varies	With dorm: $490 per semester Without dorm: $262 per semester	None	Bachelor of Science Degree
	University of Bridgeport	For complete information, contact school	Dental Hygiene Education - 4 years of academic and clinical training					Bachelor of Science Degree

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	University of Connecticut		For complete information, contact school					Bachelor of Science Degree
	Western Connecticut State College	Public school systems, area health agencies	4 years of academic training including supervised student teaching.	H.S. Diploma		Contact School	None	Bachelor of Science Degree
HEALTH SERVICES ADMINISTRATOR 187.118	Quinnipiac College School of Allied Health and Natural Sciences	Various Connecticut health agencies	Program is designed to develop and train students for management careers in hospitals and other health agencies	H.S. Diploma	25	With dorm: $2,750 yearly Without dorm: $2,100 yearly	None	Bachelor of Science Degree
	Yale University* Department of Epidemiology and Public Health	Hospitals, area health agencies	2-year graduate program including a 1 semester residency in health agency affiliate	Bachelor's Degree		Without dorm: $3,400 yearly	Depends on agency affiliate, contact school	Master of Public Health Degree

*Program has been approved by the Association of University Programs in Hospital Administration, Suite 420, 1 DuPont Circle, Washington, D.C. 20036 and accredited by the Accrediting Commission on Graduate Education for Hospital Administration and listed in the American Hospital Association's Guide To The Health Care Field (August, 1972)

HEALTH SERVICE OCCUPATIONS	Oliver Wolcott Regional Vocational Technical School		Health service occupations program, conducted in grades 9-12. For complete information, contact school					
HOMEMAKER - HOME HEALTH/AIDE 354.878	Conn. State Dept. of Health and Dept. of Education	Homemaker agencies Home Health Agencies Family Service Agencies	205 hours of classroom and on-the-job field experience					Certificate

INHALATION THERAPIST; INHALATION THERAPY TECHNICIAN - please see RESPIRATORY THERAPIST AND RESPIRATORY THERAPY TECHNICIAN.

LICENSED PRACTICAL NURSE - please see NURSE, LICENSED PRACTICAL

LABORATORY ANIMAL TECHNOLOGIST	Quinnipiac College		For complete information contact school					Bachelor of Science Degree
LABORATORY ASSISTANT 029.281	Conn. State Dept. of Health		1 year in-service training					

MEDICAL ASSISTANT - Please see MEDICAL SECRETARY

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OCCUPATION	INSTITUTING AGENCY	ACADEMIC/CLINICAL AFFILIATES	NATURE OF PROGRAM	ENTRANCE REQUIREMENTS	AVERAGE CLASS SIZE	TUITION AND FEES	STIPEND OR WAGE	CREDENTIALS EARNED
MEDICAL LABORATORY ASSISTANT - please see CERTIFIED LABORATORY ASSISTANT								
MEDICAL LABORATORY SCIENTIST 078.381	Quinnipiac College School of Allied Health and Natural Sciences	None	Continuing Education Program offered in evenings	Bachelor of Science Degree	60	$60 per credit hour	None	Master of Health Science
MEDICAL LABORATORY TECHNICIAN 078.381	Housatonic Community College	Griffin, West Haven V.A., and Milford Hospitals	10 months of academic and laboratory training at college and 12 months of hospital laboratory work	H.S. Diploma with courses in Science and Algebra SAT scores	20	$200 per semester Dormitory facilities not available	Contact School	Associate in Science Degree Diploma from training hospital
	Manchester Community College	Hartford, Manchester, and Windham Community Memorial Hospitals	10 months of academic and laboratory training at college and 12 months of hospital laboratory work	H.S. Diploma or equivalent Special Selection	25	$141.50 per semester Dormitory facilities not available	Yes - depends on affiliate	Associate in Science Degree
	Sharon Hospital	None	4 year apprentice training program sponsored by the Conn. State Labor Dept. Includes 3 months academic training	H.S. Diploma		None For complete information contact hospital	$2.47 per hour	Diploma
	Eli Whitney Regional Vocational Technical School (proposed program)							
		HOSPITAL SCHOOLS Griffin Hospital* Manchester Memorial Hospital*						Certificate

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		Windham Community Memorial Hospital*						Certificate

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MEDICAL OFFICE ADMINISTRATION 169.168	Manchester Community College (proposed 1974)	None	1 year academic	H.S. Diploma	20	$141.50 per semester Dormitory facilities not available	None	Certificate
MEDICAL RECORD TECHNICIAN 249.388 or 100.388	Greater Hartford Community College		Proposed program					
	Quinnipiac College School of Allied Health and Natural Sciences (program discontinued)		2 years of academic and on-the-job training					
MEDICAL SECRETARY 201.368	Briarwood School for Women		For complete information, contact school. Medical Assistant program also available					
	Greater Hartford Community College	Hartford Hospital, doctors' offices	2 years of academic and on-the-job training	H.S. Diploma	15	$142 per semester Dormitory facilities not available	$2.00 per hour for work experience	Associate in Science Degree
	Hartford Secretarial School		4 semesters of academic training	H.S. Diploma or equivalent	10	$700 per semester	None	Diploma
	Manchester Community College	University of Connecticut Medical-Dental School	2 years of academic and on-the-job training. Course starts in Sept. and January	H.S. Diploma	15	$141.50 per semester	None	Associate in Science Degree

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OCCUPATION	INSTITUTING AGENCY	ACADEMIC/CLINICAL AFFILIATES	NATURE OF PROGRAM	ENTRANCE REQUIREMENTS	AVERAGE CLASS SIZE	TUITION AND FEES	STIPEND OR WAGE	CREDENTIALS EARNED
MEDICAL SECRETARY (Contd)	Mattatuck Community College	Waterbury and St. Mary's Hospitals, doctors' offices	2 years of academic and on-the-job training	H.S. Diploma	20	$133 plus fees per semester. Dormitory facilities not available	None	Associate in Science Degree
	Middlesex Community College	Middlesex Memorial Hospital, physicians' offices	2 years of academic and on-the-job training	H.S. Diploma	25	$100 plus fees per semester. Dormitory facilities not available	None	Associate in Science Degree
	Northwestern Connecticut Community College	Contact school	2 years of academic and on-the-job training	H.S. Diploma	20-25	$133 per semester Dormitory facilities not available	None	Associate in Science Degree
	Post Junior College	None	Prepares secretaries for positions in physicians' offices, medical centers, and hospitals. 2 year program	H.S. Diploma	15-20	With dorm: $3,300 yearly Without dorm: $1,500 yearly	None	Associate in Science Degree
	Quinebaug Valley Community College	Physicians' Offices	2 years of academic and on-the-job training	H.S. Diploma	25	$141.50 per semester Dormitory facilities not available		Associate in Science Degree

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	Quinnipiac College School of Allied Health and Natural Sciences	None	Trains secretaries and assistants for doctors' offices, medical labs, and hospitals. 2 year program	H.S. Diploma	25	With dorm: $2,750 yearly Without dorm: $2,100 yearly	None	Associate in Science Degree
	St. Joseph Hospital	None	On-the-job training. For employees only. Contact hospital for complete information	H.S. Diploma	Individual Instruction	None	$450 per month	None
	South Central Community College (program discontinued)							
	Tunxis Community College	Contact school	2 years of academic and on-the-job training	H.S. Diploma or equivalent	36	$141.50 per semester	None	Associate in Science Degree
	University of Bridgeport Junior College	Bridgeport Hospital and doctors' offices	2 years of academic and on-the-job training	H.S. Diploma	40-50	With dorm: $3,250 yearly Without dorm: $1,950 yearly	None	Associate in Science Degree
	Eli Whitney Regional Vocational Technical School (proposed program)							
MEDICAL SECRETARY, EXECUTIVE 201.368	Briarwood School for Women		For complete information, contact school. Executive Medical Assistant program also available					
MEDICAL TECHNOLOGIST * 078.381	Central Connecticut State College		For complete information, contact school					Bachelor of Science Degree

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OCCUPATION	INSTITUTING AGENCY	ACADEMIC/CLINICAL AFFILIATES	NATURE OF PROGRAM	ENTRANCE REQUIREMENTS	AVERAGE CLASS SIZE	TUITION AND FEES	STIPEND OR WAGE	CREDENTIALS EARNED
MEDICAL TECHNOLOGIST (Contd)	Eastern Connecticut State College		For complete information, contact school	H.S. Diploma				Bachelor of Science Degree
	Quinnipiac College School of Allied Health and Natural Science	Bridgeport Hospital, Danbury Hospital, Hartford Hospital, Middlesex Hospital, New Britain General Hospital, Hospital of St. Raphael, Norwalk Hospital, St. Francis Hospital, St. Joseph's Hospital, St. Mary's Hospital, St. Vincent's Hospital, Stamford Hospital, Waterbury Hospital, Yale-New Haven Hospital	3 years of academic and 1 year of laboratory training	H.S. Diploma	50-75	With dorm: $2,750 yearly Without dorm: $2,100 yearly	For complete information contact school	Bachelor of Science Degree
	University of Bridgeport (An M.S. degree in medical technology is also available)	Bridgeport, St. Vincent's and Park City Hospitals	3 years of academic and 12 months of laboratory training. No tuition for hospital phase of program	H.S. Diploma	15	With dorm: $3,250 yearly Without dorm: $2,050 yearly	Yes - depends on affiliate	Bachelor of Science Degree
	University of Connecticut School of Allied Health Professions	Hartford Hospital, Danbury Hospital, Middlesex Hospital, New Britain General Hospital, Norwalk Hospital, Stamford Hospital, Waterbury Hospital, Yale-New Haven Hospital, St. Francis Hospital, St. Raphael Hospital	3 years of academic and laboratory training and 1 year of hospital laboratory training	H.S. Diploma	40	With dorm: $925 per semester Without dorm: $320 per semester	None	Bachelor of Science Degree

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	University of Hartford	Hartford Hospital	Consult catalog	H.S. Diploma		$1,050 per semester	None	Bachelor of Science Degree
	Western Connecticut State College	Danbury Hospital, St. Francis Hospital, Waterbury Hospital	3 years of academic and 1 year of laboratory training	H.S. Diploma	30	Contact School	None	Bachelor of Science Degree

*All hospital school programs are approved by the Council of Medical Education of the American Medical Association in collaboration with the American Society of Clinical Pathologists and the American Society of Medical Technologists.

MEDICAL TRANSCRIPTIONIST 208.588	Greater Hartford Community College	None	1 year of academic training	H.S. Diploma	10	$142.50 per semester Dormitory facilities not available	None	Certificate
MEDICATION TECHNICIAN 078.381	Hartford Hospital	None	12 months of academic, laboratory, and on-the-job training program	H.S. Diploma	10	None Dormitory facilities not available	$240 per month	Diploma
MENTAL HEALTH COMMUNITY FIELD AIDE 355.878	Connecticut Mental Health Center	South Central Community College and Mattatuck Community College	10 months or 2 year academic and on-the-job training, which prepares unemployed or underemployed innercity residents as mental health paraprofessionals	H.S. Diploma Preference given to residents of Hill and West areas of greater New Haven	6	$18.75 per required credits or $150 per semester	$230.84 Bi-weekly	Certificate or Associate Degree in Mental Health
MENTAL HEALTH WORKER 355.878	Hall-Brooke Hospital	None	6-month training program, didactic and on the job, specifically designed for working with ex-addicts and similarly disturbed individuals.		6	None	$250 per month	Certificate
	Housatonic Community College	Greater Bridgeport Mental Health Center and Bridgeport Regional Center	2 years of academic training and internship in mental health agencies	H.S. Diploma	25-30	$133 per semester	None	Associate in Science Degree

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OCCUPATION	INSTITUTING AGENCY	ACADEMIC/CLINICAL AFFILIATES	NATURE OF PROGRAM	ENTRANCE REQUIREMENTS	AVERAGE CLASS SIZE	TUITION AND FEES	STIPEND OR WAGE	CREDENTIALS EARNED
MENTAL HEALTH WORKER (Contd)	Mattatuck Community College	Mental health, child guidance clinics, and hospitals	2 years of academic training and a summer work program	H.S. Diploma	25	$133 per semester plus fees	None	Associate in Science Degree
	Middlesex Community College	Connecticut Valley Hospital, Middletown public schools, and other agencies	2 years of academic and on-the-job training	H.S. Diploma	25-30	$100 per semester plus fees Dormitory facilities not available	None	Associate in Science Degree
	University of Bridgeport Junior College	Area mental health agencies	Graduates of 2-year program are prepared to work in mental health agencies, clinics, and hospitals	H.S. Diploma	20	With dorm: $3,250 yearly Without dorm: $975 per semester	$100 for semester for full-time students	Associate in Science Degree
MENTAL RETARDATION AIDE 355.878	Conn. State Dept. of Health	State mental retardation facilities	6-8 week in-service training including 6 lectures and on-the-job experience. For employees only					
NUCLEAR MEDICINE TECHNOLOGIST 078.381	South Central Community College	Yale-New Haven Hospital	2 year academic and on-the-job training	H.S. Diploma	1	$141.50 per semester Dormitory facilities not available	None	Associate in Science Degree

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NURSE ANESTHETIST* (Registered Nurse) 075.378	Bridgeport Hospital*	Contact hospital	18 months of academic and clinical training in commonly employed techniques of anesthesiology	Registered Nurse		For complete information, contact hospital		Certificate
	Hospital of St. Raphael*	Contact hospital	Same as above	Registered Nurse		For complete information, contact hospital		
	Lawrence and Memorial Hospital* (program to be discontinued in 1974)	None	24 months of academic and clinical training in commonly employed techniques of anesthesiology	Registered Nurse	5-6	With dorm: $60 for program plus $5-8 per week Without dorm: $60 for program	$50 weekly 1st year $70 weekly 2nd year	Certificate
	New Britain General Hospital*	None	18 months of academic and clinical training in commonly employed techniques of anesthesiology	Registered Nurse	4-6	None	None	Certificate
	St. Mary's Hospital*	Contact hospital	Same as above	Registered Nurse		For complete information, contact hospital		Certificate
	St. Francis Hospital*	Contact hospital	24 months		6	For complete information, contact hospital	None	Certificate

*All programs identified by asterisk are approved by the American Association of Nurse Anesthetists, 111 E. Wacker Drive, Suite 929, Chicago, Ill. 60601 and listed in the American Hospital Association's Guide To The Health Care Field (August, 1972)

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OCCUPATION	INSTITUTING AGENCY	ACADEMIC/CLINICAL AFFILIATES	NATURE OF PROGRAM	ENTRANCE REQUIREMENTS	AVERAGE CLASS SIZE	TUITION AND FEES	STIPEND OR WAGE	CREDENTIALS EARNED
NURSE, A.S. DEGREE* (Registered Nurse) 075.378	Greater Hartford Community College	Hartford Hospital	24 months of academic, laboratory, and clinical training (proposed program, 1975)	H.S. Diploma Selective			None	Associate in Science Degree
	Mattatuck Community College	Waterbury, St. Mary's and Charlotte Hungerford Hospitals	2 years of academic, laboratory, and clinical training	H.S. Diploma	60	$133 plus fees per semester	None	Associate in Science Degree
	Mohegan Community College	William Backus and Norwich Hospitals, Extended and Special Care facilities, United Workers of Norwich, U.S. Naval Submarine Base Medical Center	5 semesters of academic and laboratory training	H.S. Diploma or equivalent Physical exam	25-40	$141.50 per semester Dormitory facilities not available	None	Associate in Science Degree
	Norwalk Community College	Norwalk, St. Joseph, Fairfield Hills, and Stamford Hospitals and Community agencies	2 years of academic, clinical and laboratory experience	H.S. Diploma and/or equivalent	80-150	$100 plus fees per semester Dormitory facilities not available	Loans, Scholorships, Work Study available	Associate in Science Degree
	Quinnipiac College School of Allied Health and Natural Sciences	Gaylord, Waterbury, West Haven V.A. and Meriden-Wallingford Hospitals	2 years of academic, laboratory and clinical training	H.S. Diploma	50	With dorm: $2,750 yearly Without dorm: $2,100 yearly	None	Associate in Science Degree

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	Tunxis Community College (proposed for 1975)		For complete information, contact school					
	University of Bridgeport Junior College*	Fairfield Hills and Bridgeport Hospitals	24 months of academic, laboratory and clinical training	H.S. Diploma	75-80	With dorm: $3,250 yearly Without dorm: $2,050 yearly	None	Associate in Science Degree

Programs identified by asterisk are approved by state authorities as reported for the United States by the National League for Nursing, 10 Columbus Circle, ew York, New York 10019 and listed in the American Hospital Association's Gude To The Health Care Field (August 1972).

URSE, B.S. DEGREE* Registered Nurse) 75.378	Fairfield University*	Greenwich, Stamford, and St. Joseph Hospitals	4 years of academic, laboratory and clinical training	H.S. Diploma SAT's, Interview	40	With dorm: $3,495 yearly Without dorm: $2,295 yearly	None	Bachelor of Science Degree
	Saint Joseph College (proposed program)		For complete information, contact school					Bachelor of Science Degree
	Southern Connecticut State College*	Yale-New Haven and other health agencies	4 years of academic, laboratory and clinical training	H.S. Diploma or R.N.	50	With dorm: $980 yearly Without dorm: $524 yearly	None	Bachelor of Science Degree
	University of Bridgeport College of Nursing*	Bridgeport and Park City Hospitals and other health facilities	4 years of academic, laboratory and clinical learning	H.S. Diploma	75	With dorm: $3,250 yearly Without dorm: $2,050 yearly	None	Bachelor of Science Degree

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OCCUPATION	INSTITUTING AGENCY	ACADEMIC/CLINICAL AFFILIATES	NATURE OF PROGRAM	ENTRANCE REQUIREMENTS	AVERAGE CLASS SIZE	TUITION AND FEES	STIPEND OR WAGE	CREDENTIALS EARNED
NURSE, B.S. DEGREE* (Contd)	University of Connecticut School of Nursing*	Contact Institution	Program combines a liberal college education with professional preparation for nursing	H.S. Diploma	150	With dorm: $1,840 yearly Without dorm: $745 yearly	None	Bachelor of Science Degree
	University of Hartford (proposed program)		For complete information, contact school					
	Western Connecticut State College*	Danbury Hospital, Yale Psychiatric Institute, and other health agencies	4 years of academic, laboratory and clinical training	H.S. Diploma	75	Contact school	None	Bachelor of Science Degree
NURSE, BACHELOR'S DEGREE FOR R.N.	Central Connecticut State College		For complete information regarding this special program for nurses, contact school	Registered Nurse				Bachelor of Arts or Science Degree
	Eastern Connecticut State College		Same as above	Registered Nurse				Bachelor of Arts or Science Degree
	Northwestern Connecticut Community College		For complete information regarding this special program for nurses, contact school. Credits transferable towards Bachelor's Degree	Registered Nurse				Associate in Science Degree in Liberal Arts
	University of Hartford		For complete information regarding this special program for nurses, contact school	Registered Nurse				Bachelor of Science Degree

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NURSE, B.S. DEGREE IN NURSING EDUCATION 075.128	Central Connecticut State College		For complete information, contact school	Registered Nurse				Bachelor of Science in Nursing Education

*Programs identified by asterisk are approved by state authorities as reported for the United States by the National League for Nursing, 10 Columbus Circle, New York, N.Y. 10019 and listed in the American Hospital Association's Guide To The Health Care Field (August 1972).

NURSE, DIPLOMA* (Registered Nurse) 075.378	Bridgeport Hospital*	Fairfield Hills Hospital	30 months of academic and clinical training	H.S. Diploma		For complete information, contact hospital	Contact hospital	Diploma
	Grace-New Haven School of Nursing (Yale-New Haven Hospital)* (To be discontinued in 1975)		121 weeks of academic and clinical training					Diploma
	Greenwich Hospital* (To be discontinued in 1975)		33 months of academic and clinical training					Diploma
	Hartford Hospital* (Phasing out 1973)	University of Hartford The Institute of Living	3 years of academic and clinical training	H.S. Diploma	150	With dorm: $1,825 1st year Without dorm: $1,215 1st year	None	Diploma
HOSPITAL OF ST. RAPHAEL - please see ST. RAPHAEL HOSPITAL								
	Lawrence and Memorial Hospital* (The Joseph Lawrence School) (To be discontinued in 1976)	Norwich Hospital, Institute of Living and other health agencies	3 years of academic and clinical training	H.S. Diploma	74	With dorm: $3,270 for entire program. Without dorm: $2,800 for entire program	None	Diploma

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OCCUPATION	INSTITUTING AGENCY	ACADEMIC/CLINICAL AFFILIATES	NATURE OF PROGRAM	ENTRANCE REQUIREMENTS	AVERAGE CLASS SIZE	TUITION AND FEES	STIPEND OR WAGE	CREDENTIALS EARNED
NURSE DIPLOMA* (Contd)	Meriden-Wallingford Hospital* (program discontinuing)	Institute of Living, Columbia Presbyterian Medical Center (New York City)	30 months of academic and clinical training	H.S. Diploma	30	With dorm: $3,100 for entire program	None	Diploma
	Middlesex Memorial Hospital* (Ona Wilcox School)	Connecticut Valley and Newington Children's Hospitals	120 weeks of academic and clinical training	H.S. Diploma or equivalent	45	With dorm: $3,100 for entire program. Without dorm: $1,900 for entire program	None	Diploma
	New Britain General Hospital (To be discontinued in 1976)	Norwich, New Britian Memorial Hospitals	3 years of academic and clinical training	H.S. Diploma	40	With dorm: $3,295 for entire program. Without dorm: $2,095 for entire program	None	Diploma
	Norwalk Hospital* (program discontinued in 1974)		27 months of academic and clinical training					Diploma
	St. Francis Hospital*	University of Hartford, The Institute of Living	120 weeks of academic and clinical training	H.S. Diploma	90	For complete information, contact hospital. Dormitory facilities available	None	Diploma

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	St. Mary's Hospital*	Mattatuck Community College and Fairfield Hills Hospital	33 months of academic and clinical training	H.S. Diploma	55	With dorm: Approx. $3,000 for entire program	None	Diploma
	St. Raphael's Hospital* (Program discontinuing in 1976)	Southern Connecticut State College	30 months of academic and clinical training	H.S. Diploma	40	For complete information, contact hospital. Dormitory facilities available		Diploma
	St. Vincent's Hospital*	Sacred Heart University	30 months of academic and clinical training	H.S. Diploma	50	With dorm: $3,280 for entire program. Without dorm: $2,680 for entire program	None	Diploma
	Stamford Hospital* (To be discontinued in 1976)		110 weeks of academic and clinical training					Diploma

*Programs identified by asterisk are approved by state authorities as reported for the United States by the National League for Nursing, 10 Columbus Circle, New York, N.Y. 10019 and listed in the American Hospital Association's Guide To The Health Care Field (August 1972)

NURSE, LICENSED PRACTICAL* (Licensed Vocational Nurse) 079.378	Henry Abbott Regional Vocational Technical School	Danbury Hospital	4 months of academic and 8 months of clinical training	H.S. Diploma	20	None Dormitory facilities not available	None	Certificate
	Bullard-Havens Regional Vocational Technical School*	Bridgeport Hospital, St. Vincent's Hospital	Same as above	H.S. Diploma	40	None Dormitory facilities not available	None	Certificate

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OCCUPATION	INSTITUTING AGENCY	ACADEMIC/CLINICAL AFFILIATES	NATURE OF PROGRAM	ENTRANCE REQUIREMENTS	AVERAGE CLASS SIZE	TUITION AND FEES	STIPEND OR WAGE	CREDENTIALS EARNED
NURSE, LICENSED PRACTICAL (Contd)	E.C. Goodwin Regional Vocational Technical School*	New Britain General and Bristol Hospitals	4 months of academic and 8 months of clinical training	H.S. Diploma	25	None Dormitory facilities not available	None	Certificate
	W.F. Kaynor Regional Vocational Technical School*	Waterbury and St. Mary's Hospitals	Same as above	H.S. Diploma	45	None Dormitory facilities not available	None	Certificate
	Norwich Regional Vocational Technical School*	William W. Backus Hospital	Same as above	H.S. Diploma 2 years of H.S. if over age 20	23	None Dormitory facilities not available	None	Certificate
	A.I. Prince Regional Vocational Technical School*	Hartford, St. Francis Hospitals	9 1/2 months integrated pre-clinical and clinical 2 1/2 months of clinical	H.S. Diploma	160	None Dormitory facilities not available	None	Certificate
	South Central Community College	Eli Whitney Regional Vocational Technical School	For complete information, contact school. Eli Whitney training is granted 30 credits towards A.S. Degree	H.S. Diploma	12	$141.50 for each of two semesters	None	Associate in Science Degree
	Vinal Regional Vocational Technical School*	Middlesex Memorial Hospital	4 months of academic and 8 months of clinical training	H.S. Diploma	24	None Dormitory facilities not available		Certificate

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	Eli Whitney Regional Vocational Technical School*	St. Raphael and Yale-New Haven Hospitals	Same as above	H.S. Diploma	75	None Dormitory facilities not available	None	Certificate
	H. C. Wilcox Regional Vocational Technical School		Same as above (proposed program)	H.S. Diploma	20-25	None Dormitory facilities not available	None	Certificate
	Windham Regional Vocational Technical School*	Windham Community Memorial and Day Kimball Hospitals	4 months of academic and 8 months of clinical training	H.S. Diploma	40	None Dormitory facilities not available	None	Certificate
	J.M. Wright Regional Vocational Technical School*	Norwalk, Stamford, and St. Joseph Hospitals	Same as above	H.S. Diploma	30	None Dormitory facilities not available	None	Certificate

*Programs identified by asterisk are approved by state authorities as reported for the United States by the National League for Nursing, 10 Columbus Circle, New York, N.Y. 10019 and listed in the American Hospital Association's Guide To The Health Care Field (August 1972)

NURSE, MASTER'S DEGREE (Registered Nurse)	University of Bridgeport (Discontinued 1973)							Master of Science in Nursing
	University of Connecticut		For complete information, contact school	Bachelor of Science in Nursing		Instate: Without dorm: $710 yearly		Master of Science in Nursing
	Yale University School of Nursing		For complete information, contact school					Master of Science in Nursing

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OCCUPATION	INSTITUTING AGENCY	ACADEMIC/CLINICAL AFFILIATES	NATURE OF PROGRAM	ENTRANCE REQUIREMENTS	AVERAGE CLASS SIZE	TUITION AND FEES	STIPEND OR WAGE	CREDENTIALS EARNED
NURSE, PEDIATRIC ASSOCIATE (Title - Pediatric Nurse Associate) 075.378	University of Connecticut McCook Hospital	Hartford Hospital and Hartford City Health Department	4 months of academic and clinical training	R.N. with B.S. Degree	8-12	$87.50 Dormitory facilities not available	Available on need	Certificate
NURSE PRACTIONER, ADULT MEDICINE AMBULATORY CARE	Hartford Hospital (pilot project)		For complete information, contact hospital	Registered Nurse				
NURSE, REFRESHER COURSE	Norwalk Community College	Area hospitals and Nursing homes	A 5-week program of theory and related clinical experience	Registered Nurse	30	$50 for course	None	
NURSING AIDE 355.878	Bridgeport Hospital	None	6-8 weeks of academic and on-the-job training. Most programs designed to include males (orderlies) and females (nurse aides). For employees only	H.S. Diploma		None Dormitory facilities not available	Contact hospital	Certificate
	Danbury Hospital	None	4 weeks of academic and on-the-job training. For employees only	None	10	None Dormitory facilities not available	$1.85 per hour	Certificate
HOSPITAL OF ST. RAPHAEL - please see ST. RAPHAEL HOSPITAL								
	Laurel Heights Hospital	None	12 weeks of academic and clinical training. Training begins at various times of the year. For employees only	H.S. Diploma	2-30	None Dormitory facilities not available	Contact	Certificate

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Masonic Home and Hospital	None	12 weeks of academic and on-the-job training. For employees only	H.S. Diploma preferred	8	None	Contact hospital	Institutional Certificate
Meriden-Wallingford Hospital (program discontinued)							Certificate
Middlesex Memorial Hospital	None	In-service training to prepare individuals in skills required to function as a nursing aide. Training begins at various times of the year	H.S. Diploma	10	None Dormitory facilities not available	$388.80 per month	Certificate
New Britian General Hospital	None	4 weeks on-the-job training. Training begins at various times of the year. For employees only	H.S. Diploma (with exceptions)	10	None Dormitory facilities not available	None	Certificate
New Milford Hospital		On-the-job training according to need. For employees only					
Norwalk Hospital	None	4-6 weeks of academic and on-the-job training. Training begins at various times of the year. For employees only	H.S. Diploma (with exceptions)	10	None Dormitory facilities not available	Approx. $2.50 per hour	Certificate
Park City Hospital	None	8 weeks of academic and on-the-job training. Training begins at various times of the year. For employees only		10	None Dormitory facilities not available	$380 per month	Certificate

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OCCUPATION	INSTITUTING AGENCY	ACADEMIC/CLINICAL AFFILIATES	NATURE OF PROGRAM	ENTRANCE REQUIREMENTS	AVERAGE CLASS SIZE	TUITION AND FEES	STIPEND OR WAGE	CREDENTIALS EARNED
NURSING AIDE (Contd)	St. Joseph Hospital	None	On-the-job training. Training begins at various times of the year. For employees only.	H.S. Diploma	8	None Dormitory facilities not available	$406.25 per month	Certificate
	St. Mary's Hospital	None	8 weeks of academic and clinical training. Training begins at various times of the year. For employees only	H.S. Diploma (with exceptions)	5-8	None Dormitory facilities not available	Contact hospital	None
	St. Raphael Hospital	None	8 weeks of academic and on-the-job training. Training begins at various times of the year. For employees only	H.S. Diploma (with exceptions)	8-10	None Dormitory facilities not available	$2.50 per hour	Certificate
	St. Vincent's Hospital	None	6 weeks of academic and clinical training. Training begins at various times of the year. For employees only	H.S. Diploma	15-20	None Dormitory facilities not available	$2.25 per hour	Certificate
	Sharon Hospital (Temporarily discontinued)	None	5 weeks of academic and clinical training. Training begins at various times of the year. For employees only	H.S. Diploma	10	None Dormitory facilities not available		Certificate
	Stamford Hospital	None	8 weeks of academic and on-the-job training. Train- begins at various times of the year. For employees only	H.S. Diploma	10	None Dormitory facilities not available	$438.75 per month	Certificate

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Twin Pines Convalescent Home	None	4-6 weeks of academic and on-the-job training. For employees only	8th grade		None	$2.00 per hour	None
Uncas-on-Thames Hospital	None	On-the-job training. Training begins at various times of the year. For employees only	H.S. Diploma	1 or 2	None Dormitory facilities not available	$659 per month	None
V.A. Hospital - Newington	None	6-10 weeks of academic and on-the-job training. Training begins at various times of the year. For employees only	H.S. Diploma	3-6	None Dormitory facilities not available	$450 per month	Certificate
V.A. Hospital - West Haven	None	12 weeks of academic and clinical training. Training begins at various times of the year	H.S. Diploma (with exceptions)	10-15	None Dormitory facilities not available	$2.50 per hour	Certificate
Windham Community Memorial Hospital	None	On-the-job training. Training begins at various times of the year	H.S. Diploma	10-15	None Dormitory facilities not available	$304 per month	None
Yale-New Haven Hospital	None	3 weeks of academic and on-the-job training. Training begins at various times of the year	H.S. Diploma	20	None Dormitory facilities not available	$494 per month	None

Many hospitals and extended care facilities provide nursing aide training programs for newly hired personnel. This list, therefore, is not comprenensive, but reflects some of the programs and their format.

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OCCUPATION	INSTITUTING AGENCY	ACADEMIC/CLINICAL AFFILIATES	NATURE OF PROGRAM	ENTRANCE REQUIREMENTS	AVERAGE CLASS SIZE	TUITION AND FEES	STIPEND OR WAGE	CREDENTIALS EARNED
OCCUPATIONAL HEALTH AND SAFETY TECHNICIAN (Occupational Safety and Hygiene) 168.168	Housatonic Community College (proposed program)		For complete information, contact school					
	Middlesex Community College (proposed program)		For complete information, contact school					Associate in Science Degree
	University of New Haven		2 year program. For complete information, contact school					Associate in Science Degree
OCCUPATIONAL THERAPIST 078.128	Quinnipiac College School of Allied Health and Natural Sciences	Health agencies in Connecticut and neighboring states	4 years of academic and clinical training	H.S. Diploma	25	With dorm: $2,750 yearly Without dorm: $2,100 yearly	None	Bachelor of Science Degree
OCCUPATIONAL THERAPY ASSISTANT* 078.368	Manchester Community College*	Various health agencies	3 semesters of academic and 1 semester of clinical training	H.S. Diploma Selective	24	$141.50 per semester Dormitory facilities not available	None	Associate in Science Degree

*Program listed is approved by the American Occupational Therapy Association, 251 Park Avenue, S., New York, N.Y. 10010.

OPERATING ROOM TECHNICIAN - please see SURGICAL TECHNICIAN

OPTICIANARY TECHNICIAN 713.381	Greater Hartford Community College (proposed program)		For complete information, contact school					

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ORTHOTIST AND PROSTHETIST 078.368	Newington Children's Hospital	None	4 years of individual instruction and on-the-job training. Apprenticeship program sponsored by the Conn. State Dept. of Labor	H.S. Diploma	8-12	For complete information, contact hospital	Yes - contact hospital	Certificate
PEDIATRIC NURSE ASSOCIATE - please see NURSE, PEDIATRIC ASSOCIATE								
PHARMACIST 074.181	University of Connecticut School of Pharmacy*	Hartford, Yale-New Haven, and University McCook Hospitals	5 years of academic and clinical training	H.S. Diploma	80	With dorm: see catalog Without dorm: $350 per semester	None	Bachelor of Science Degree

*Program accredited by the American Council on Pharmaceutical Education, 77 W. Washington Street, Chicago, Ill. 60602 and listed in the American Hospital Association's Guide To The Health Care Field (August 1972).

PHYSICAL THERAPIST* 079.378	Quinnipiac College School of Allied Health and Natural Sciences	Health agencies in Connecticut and neighboring states	4 years of academic and clinical training	H.S. Diploma	35	With dorm: $2,750 yearly Without dorm: $2,100 yearly	None	Bachelor of Science Degree
	University of Connecticut School of Allied Health Professions*	Various health agencies in Connecticut and other States	4 years of academic and clinical training	H.S. Diploma	80	With dorm: see catalog Without dorm: $320 per semester	None	Bachelor of Science Degree

*Program accredited by the Council on Medical Education of the American Medical Association, 535 N. Dearborn Street, Chicago, Ill. 60610 in collaboration with the American Physical Therapy Association, 1156 15th Street, N. W. Washington, D. C. 20005 and listed in the American Hospital Association's Guide To The Health Care Field (August 1972)

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OCCUPATION	INSTITUTING AGENCY	ACADEMIC/CLINICAL AFFILIATES	NATURE OF PROGRAM	ENTRANCE REQUIREMENTS	AVERAGE CLASS SIZE	TUITION AND FEES	STIPEND OR WAGE	CREDENTIALS EARNED
PHYSICIAN* 070.101	University of Connecticut*	Various community hospitals	4 years of academic, clinical and laboratory training	Bachelor's Degree	64	$950 yearly	None	Doctor of Medicine Degree
	Yale University*	Yale-New Haven, St. Raphael, and West Haven V.A. Hospitals and Connecticut Mental Health Center	4 years of academic, clinical and laboratory training	Bachelor's Degree	102	Without dorm: $3,200 yearly. For complete information, contact school	None	Doctor of Medicine Degree
PHYSICIAN'S ASSISTANT IN PATHOLOGY	Quinnipiac College School of Allied Health and Natural Sciences	West Haven V.A. and Yale-New Haven Hospitals	22 months of academic and clinical training in affiliated pathology departments	A.S. Degree or previous medical experience	4	With dorm: $2,750 yearly Without dorm: $2,100 yearly	None	Bachelor of Health Science Degree
PHYSICIAN'S ASSOCIATE	Yale University	Yale-New Haven Hospital, and other health agencies	9 months of academic and 15 months of clinical training	2 yrs college, previous medical experience preferred		None Dormitory facilities available	Contact program	Certificate
PRE-MEDICAL PROGRAM (FOR MINORITY STUDENTS)	Connecticut College		1 year post-baccalaureate program to help minority students fulfill medical and dental school requirements	Bachelor's Degree				

*Programs identified by asterisk are approved by the Council on Medical Education of the American Medical Association, 535 N. Dearborn St., Chicago, Ill. 60610 and the Association of American Medical Colleges, 1 DuPont Circle, Suite 200, Washington, D. C. 20036 and listed in the American Hospital Association's Guide To The Health Care Field (August 1972)

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PRE-VETERINARY MEDICINE 073.081	University of Connecticut	None	4 years undergraduate program with major in pre-veterinary medicine	H.S. Diploma Encouraged to seek admission in junior year	60-70	With dorm: see catalog Without dorm: $350 per semester	None	Bachelor of Science Degree
PSYCHIATRIC AIDE 355.878	Fairfield Hills Hospital	None	34 weeks of academic and clinical training	H.S. Diploma	12-14	None With dorm: $6.12 weekly	$219.11 bi-weekly	Certificate
	Institute of Living	None	On-the-job training. For employees only	H.S. Diploma or equivalent	8-15	None With dorm: $17.31 weekly	$2.80 per hour	None
	Norwich Hospital	None	34 weeks of academic and clinical training	H.S. Diploma	12-15	None Dormitory facilities available	$219.11 bi-weekly	Certificate
PUBLIC HEALTH AIDE/ASSISTANT	Connecticut State Department of Health		On-the-job training. Contact Department of Health for complete information					
PULMONARY FUNCTION TECHNICIAN 078.368	St. Joseph Hospital	None	On-the-job training. For employees only	H.S. Diploma	Individual Instruction	None Dormitory facilities not available	$440 per month	None
RADIOLOGIC TECHNOLOGIST* (X-ray Technician) 078.368	Bridgeport Hospital*	None	24 months of academic and clinical training. Program begins in July	H.S. Diploma		Contact hospital		Certificate
	Bristol Hospital*	Yale-New Haven and Newington Children's Hospitals	24 months of academic and on-the-job training	H.S. Diploma	10	$200 for entire program Dormitory facilities available	$1.85 or minimum wage for work experience	Certificate

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OCCUPATION	INSTITUTING AGENCY	ACADEMIC/CLINICAL AFFILIATES	NATURE OF PROGRAM	ENTRANCE REQUIREMENTS	AVERAGE CLASS SIZE	TUITION AND FEES	STIPEND OR WAGE	CREDENTIALS EARNED
RADIOLOGIC TECHNOLOGIST* (Contd)	Danbury Hospital*	Western Connecticut State College	24 months of academic and clinical training	H.S. Diploma	15	$100 for entire program Dormitory facilities not available	Contact hospital	Certificate
	Hartford Hospital*	Newington Children's Hospital	2 years of academic and clinical training	H.S. Diploma	20	$200 for entire program Dormitory facilities available	$113 per month	Diploma
	HOSPITAL OF ST. RAPHAEL - please see ST. RAPHAEL HOSPITAL							
	Lawrence and Memorial Hospital*	Uncas-on-Thames Hospital and Phelps Radiation Center	24 months of academic and on-the-job training. Program begins in June	H.S. Diploma	8	None Dormitory facilities available	$41.60 per week	Certificate
	Manchester Memorial Hospital*	None	2 years of academic and clinical training. Program begins in Nov.	H.S. Diploma	7	None Dormitory facilities not available	$20 to $120 per month in periodic increments	Diploma
	Mattatuck Community College	Waterbury and St. Mary's Hospitals	2 years of academic and clinical training	H.S. Diploma	24	$133 plus fees per semester	None	Associate in Science Degree

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Meriden-Wallingford Hospital*	None	2 years of academic and clinical training	H.S. Diploma	6	With or Without dorm: $200 for entire program	$195 per month	Certificate
Middlesex Community College	Middlesex Memorial Hospital	24 months of academic and clinical training	H.S. Diploma	15	$100 plus fees per semester Dormitory facilities not available		Associate in Science Degree
Mount Sinai Hospital*	Newington Children's Hospital	24 months of training including 455 classroom hours and 3,200 hours of on-the-job training. Program begins in July	H.S. Diploma	9	No tuition Dormitory facilities not available	$15 after 6 months	Diploma
New Britain General Hospital*	None	24 months of academic and x-ray laboratory training. Program begins in July	H.S. Diploma	6	$100 per year fees Dormitory facilities not available	None	Certificate
Park City Hospital*	None	24 months of academic and on-the-job training. Program not available in 1972 and 1973	H.S. Diploma	5	$50 per year Dormitory facilities not available	$100 per month	Diploma
Quinnipiac College School of Allied Health and Natural Sciences	V.A. Hospital (West Haven)	1 year of academic and 2 years of clinical training	H.S. Diploma	20	With dorm: $2,750 yearly Without dorm: $2,100 yearly	$1,600 per year possible last 2 years	Associate in Science Degree

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OCCUPATION	INSTITUTING AGENCY	ACADEMIC/CLINICAL AFFILIATES	NATURE OF PROGRAM	ENTRANCE REQUIREMENTS	AVERAGE CLASS SIZE	TUITION AND FEES	STIPEND OR WAGE	CREDENTIALS EARNED
RADIOLOGIC TECHNOLOGIST* (Contd)	St. Francis Hospital*	None	2 years of academic and clinical training	H.S. Diploma		None Dormitory facilities not available	None	Certificate
	St. Mary's Hospital*		For complete information, contact hospital					Certificate
	St. Joseph Hospital*	None	24 months of academic and on-the-job training	H.S. Diploma		$200 for entire program Dormitory facilities not available	$43 - $130 per month in periodic increments	Certificate
	St. Raphael Hospital*		For complete information, contact hospital					Certificate
	St. Vincent's Hospital*	None	24 months of academic and clinical training. Program begins in July	H.S. Diploma	10	None Dormitory facilities not available	$1.85 per hour for second year	Certificate
	South Central Community College	Yale-New Haven and St. Raphael Hospitals	2 years of academic and on-the-job training. Program begins in July	H.S. Diploma	30	$142 per semester Dormitory facilities not available	Contact school	Associate in Science Degree
	Stamford Hospital*	Newington Children's Hospital	24 months of academic and on-the-job training. Program begins in July	H.S. Diploma	8-10	None Dormitory facilities not available	$50 per month after 1st 6 months	Certificate

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	Windham Community Memorial Hospital*	None	24 months of academic and practical training	H.S. Diploma		$100 yearly	None	Certificate
		HOSPITAL SCHOOLS William Backus*						Certificate
		Veterans Administration* (West Haven)						Certificate
		Waterbury Hospital*						Certificate
		Yale-New Haven Hospital*						

*All programs identified by asterisk are approved by the Council on Medical Education of the American Medical Association, 535 Dearborn Street, Chicago, Ill. 60610 in collaboration with the American College of Radiology, 20 N. Wacker Drive, Chicago, Ill. 60606, and the American Society of Radiologic Technologist, 645 North Michigan Avenue, Chicago, Ill. 60610 and listed in the American Hospital Association's Guide To The Health Care Field (August 1972)

RADIATION THERAPY TECHNOLOGIST 078.368	Quinnipiac College School of Allied Health and Natural Sciences	Joint Center for Radiation Therapy (Boston)	1 year of academic and 2 years of clinical training	H.S. Diploma	5	With dorm: $2,750 yearly Without dorm: $2,100 yearly	Depends on affiliate	Associate in Science Degree
	South Central Community College		For complete information, contact admissions office	H.S. Diploma				Associate in Science Degree
RECREATION PROGRAM DIRECTOR 195.168	Conn. State Dept. of Health		Two week initial training period at approved training site for employees only	H.S. Diploma Plus experience	Individual Instruction			
RECREATION THERAPY 079.128	Southern Connecticut State College		4 year and graduate program		40	With dorm: $490 per semester Without dorm: $262 per semester		Bachelor of Science or Master of Science Degree

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OCCUPATION	INSTITUTING AGENCY	ACADEMIC/CLINICAL AFFILIATES	NATURE OF PROGRAM	ENTRANCE REQUIREMENTS	AVERAGE CLASS SIZE	TUITION AND FEES	STIPEND OR WAGE	CREDENTIALS EARNED
RECREATION THERAPY (Contd)	University of Connecticut		4 year and graduate program. For complete information, contact school			Consult current catalogue		Bachelor of Science or Master of Science Degree
RECREATION THERAPY ASSISTANT 079.128	Northwestern Connecticut Community College	Contact School	2 years of academic and clinical training, including a summer work program	H.S. Diploma	25-30	$133 per semester Dormitory facilities not available	None	Associate in Science Degree
	Post Junior College		2 years of academic and field experience	H.S. Diploma	30	With dorm: $3300 yearly Without dorm: $1,500 yearly	Financial aid available	Associate in Science Degree
REHABILITATION SERVICES	University of Connecticut	Various health agencies	2 year program	54 college credits minimum	20	Instate: $745/year Out of state $1,745/year Dorm: $1,095	None	Bachelor of Science Degree
RESPIRATORY THERAPIST* (Inhalation Therapist) 079.368	Manchester Community College*	Hartford, St. Francis, and Lawrence and Memorial Hospitals	10 months of academic and 12 months of clinical training	H.S. Diploma Selective	30	$141.50 per semester Dormitory facilities not available	Depends on affiliate	Associate in Science Degree
	Norwalk Community College	Norwalk Hospital	2 years of academic and clinical experience	H.S. Diploma and/or equivalent	20	$100 plus fees per semester Dormitory facilities not available	Contact School	Associate in Science Degree

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Quinnipiac College School of Allied Health and Natural Sciences	St. Raphael, Yale-New Haven and St. Vincent's Hospitals	10 months of academic and 12 months of clinical training	H.S. Diploma	35	With dorm: $2,750 yearly Without dorm: $2,100 yearly	None	Associate in Science Degree
St. Raphael Hospital*	None	18 months of academic and clinical training	H.S. Diploma	1	For complete information, contact hospital	None	Certificate
Western Connecticut State College (proposed program)		For complete information, contact school					
Windham Community Memorial Hospital	None	24 months of academic and on-the-job training	H.S. Diploma	Individual Instruction	None Dormitory facilities not available	As needed	Certificate
	HOSPITAL SCHOOLS						
	Hartford Hospital*						Diploma
	Lawrence and Memorial Hospital*						
	New BritainGeneral Hospital*						
	Norwalk Hospital*						
	St. Francis Hospital*						
	St. Raphael Hospital*						
	Yale-New Haven Hospital*						Certificate

*Programs identified by asterisk have been approved by the Council on Medical Education of the American Medical Association, 535 N. Dearborn St. Chicago, Ill. 60610 in collaboration with the American Association for Inhalation Therapy, 3554 Ninth St. Riverside, California 92501; the American College of Chest Physicians, 112 E. Chestnut St. Chicago, Ill. 60611, and the American Society of Anesthesiologist, 515 Busse Highway, Park Ridge, Ill. 60068 and listed in the American Hospital Association's Guide To The Health Care Field (August 1972)

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OCCUPATION	INSTITUTING AGENCY	ACADEMIC/CLINICAL AFFILIATES	NATURE OF PROGRAM	ENTRANCE REQUIREMENTS	AVERAGE CLASS SIZE	TUITION AND FEES	STIPEND OR WAGE	CREDENTIALS EARNED
RESPIRATORY THERAPY TECHNICIAN* (Inhalation Therapist) 079.368	Bridgeport Hospital	None	12 months of academic and clinical training	H.S. Diploma		Contact hospital	Contact hospital	
	Hartford Hospital*	Manchester Community College	12 months of academic and clinical training	H.S. Diploma	18	With dorm: $596 yearly Without dorm: $200 yearly	$120 per month	Diploma
	Lawrence and Memorial Hospital*		For complete information, contact school					
	Milford Hospital	None	On-the-job training, Program begins at various times of the year. For employees only	H.S. Diploma	Individual Instruction	None Dormitory facilities not available	$100 weekly	None
	New Britain General Hospital	None	18 months of academic and clinical training	H.S. Diploma	12	None	None	Certificate
	Park City Hospital	None	On-the-job training For employees only		Individual Instruction	None Dormitory facilities not available	$2.62 per hour	None
	St. Francis Hospital*	None	1 year clinical and on-the-job training	H.S. Diploma	13	None Dormitory facilities not available	None	Certificate

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	St. Mary's Hospital	None	12 months of academic and clinical training	H.S. Diploma	5-10	For complete information, contact hospital	None	Certificate
	Yale-New Haven Hospital		21 months of academic and clinical training			For complete information, contact hospital		

*Programs identified by asterisk have been approved by the Council on Medical Education of the American Medical Association, 535 N. Dearborn St., Chicago, Ill. 60610 in collaboration with the American Association for Inhalation Therapy, 3554 Ninth St., Riverside, California 92501; the American College of Chest Physicians, 112 E. Chestnut St., Chicago, Ill 60611, and the American Society of Anesthesiologists, 515 Busse Highway, Park Ridge, Ill. 60068 and listed in the American Hospital Association's Guide To The Health Care Field (August 1972).

RESPIRATORY THERAPY ASSISTANT 079.368	St. Joseph's Hospital		For complete information, contact hospital For employees only					
SOCIAL SERVICE AIDE (Human Services Aide) A.S. Degree 195.208	Greater Hartford Community College		For complete information, contact school	H.S. Diploma				Associate in Science Degree
	Housatonic Community College		Program referred to as Urban Professional Assistant. For complete information, contact school	H.S. Diploma				Associate in Science Degree
	Manchester Community College	Various social service agencies in Capitol region	Public Service major 2 year program with 2 semester internship.	H.S. Diploma	30	$141.50 per semester Dormitory facilities not available	None	Associate in Science Degree

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OCCUPATION	INSTITUTING AGENCY	ACADEMIC/CLINICAL AFFILIATES	NATURE OF PROGRAM	ENTRANCE REQUIREMENTS	AVERAGE CLASS SIZE	TUITION AND FEES	STIPEND OR WAGE	CREDENTIALS EARNED
SOCIAL SERVICE AIDE (Contd)	Mattatuck Community College	Social agencies	For complete information, contact school	H.S. Diploma				Associate in Science Degree
	Mitchell College		For complete information, contact school	H.S. Diploma				Associate in Science Degree
	Norwalk Community College	Community agencies	Human Services Curriculum. 2 year academic program	H.S. Diploma		$100 plus fees per semester Dormitory facilities not available	Scholarship and loan through Admissions Office	Associate in Science Degree
	South Central Community College		For complete information, contact school	H.S. Diploma	17	$141.50 per semester	None	Associate in Science Degree
SOCIAL WORKER B.S. Degree 195.208	Central Connecticut State College (An option is offered)		For complete information, contact school	H.S. Diploma				Bachelor of Arts Degree with undergraduate option
	St. Joseph's College		For complete information, contact school	H.S. Diploma	12-15		None	Bachelor of Arts Degree
	Southern Connecticut State College		For complete information, contact school	H.S. Diploma				Bachelor of Arts Degree
	University of New Haven		For complete information, contact school	H.S. Diploma				Bachelor of Arts Degree
SOCIAL WORKER Masters Degree 195.108	University of Connecticut* School of Social Work		For complete information contact school	Bachelor's Degree			Depends on affiliating agencies	Master of Social Work Degree

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*Program accredited by the Council on Social Work Education, 345 E. 46th Street, New York, New York 10017 and listed in the American Hospital Association's Guide To The Health Care Field (August 1972).

SPEECH PATHOLOGIST AND AUDIOLOGIST* 079.108	University of Connecticut* Master's Program	Hartford Hospital, Newington Children's Hospital, Cedarcrest Hospital, Uncas-on-Thames Hospital	2 or more years of academic and clinical training (More if no speech background)	H.S. Diploma	20	With dorm: $1,840 yearly Without dorm: $745 yearly	None	Master of Art Degree
	Central Connecticut State College		Liberal Arts program. Major concentration in speech (speech pathology and audiology)	H.S. Diploma				Bachelor of Arts Degree
	Southern Connecticut State College	Contact school	Liberal arts program. Major concentration in speech (speech pathology and audiology) Graduate, 6th year programs	H.S. Diploma		$356 per semester		Bachelor of Arts Degree Master's Degree or 6th year Certificate

*Program (on a graduate level) accredited by the American Speech and Hearing Assocation, 9030 Old Georgetown Road, Washington D. C. 20014 and listed by the American Hospital Association's Guide To The Health Care Field (August 1972).

SURGICAL TECHNICIAN* 079.378 (Operating Room Technician)	Bridgeport Hospital	None	12 months of academic and clinical training	H.S. Diploma		For complete information, contact hospital		Certificate
	Danbury Hospital*	None	12 months of academic and clinical training	H.S. Diploma	7	None Dormitory facilities not available	$50 per week 1st 6 months, $75 per week 2nd 6 months	Certificate

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OCCUPATION	INSTITUTING AGENCY	ACADEMIC/CLINICAL AFFILIATES	NATURE OF PROGRAM	ENTRANCE REQUIREMENTS	AVERAGE CLASS SIZE	TUITION AND FEES	STIPEND OR WAGE	CREDENTIALS EARNED
SURGICAL TECHNICIAN* (Contd)	Manchester Community College	Hartford Hospital	12 month program and 22 month program	H.S. Diploma Selective	25	$141.50 per semester Dormitory facilities not available (with some exceptions)	Depends on affiliate	Certificate or A.S. Degree
	New Britain General Hospital	None	12 months of academic and clinical training	H.S. Diploma	8	None Dormitory facilities not available	None	Certificate
	Norwalk Hospital*		For complete information, contact school					
	St. Mary's Hospital	None	12 months of academic and clinical training	H.S. Diploma	5-10	None Dormitory facilities not available	Contact hospital	None
	St. Vincent's Hospital	None	9 months on-the-job training with 10 weeks of academic training (science courses). Program begins in November	H.S. Diploma	6	None Dormitory facilities not available	$2.50 per hour average	Certificate
	Yale-New Haven Hospital	None	6 months of academic and 6 months of on-the-job training	H.S. Diploma	7	None Dormitory facilities not available	$320 per month	None

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		HOSPITAL SCHOOL Hartford Hospital						Certificate

*Programs identified by asterisk approved by the Association of Operating Room Nurses, Inc., 8085 E. Prentice Avenue, Englewood, Colorado 80110 and listed in the American Hospital Association's Guide To The Health Care Field (August 1972).

TEACHER, SPECIAL EDUCATION 094.228	Central Connecticut State College (An option is offered)		For complete information, contact school	H.S. Diploma				Bachelor of Science Degree
	Central Connecticut State College (Graduate program)		For complete information, contact school	Baccalaureate Degree 2.5 CPA GRE				Master of Science Special Education
	Fairfield University	Child Guidance Clinics, public schools	Graduate program leading to master's degree and sixth year certificate	Baccalaureate Degree Interview	10-30	$50 per credit hour	None	Master's Degree or Sixth Year Certificate
	St. Josephs College (a graduate program available)		For complete information, contact school	H.S. Diploma		$1,800 per semester		Bachelor of Arts Degree, Master of Arts Degree, 6th Year Certificate
	Southern Connecticut State College	Various public and private agencies	4 years of academic training including practice teaching of emotionally disturbed, mentally retarded, and perceptually handicapped children. Physically handicapped - interrelated program	H.S. Diploma	20-30	With dorm: $490 per semester Without dorm: $282 per semester	None	Bachelor of Science Degree, Master of Science Degree
	University of Connecticut (A graduate program is also available)	Various public schools and health agencies	4 years of academic training including practice teaching of emotionally disturbed, mentally retarded, and learning disabled children	H.S. Diploma	20-30	With dorm: $925 per semester Without dorm: $320 per semester	None	Bachelor of Science Degree Special Education Certification (K-12)

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OCCUPATION	INSTITUTING AGENCY	ACADEMIC/CLINICAL AFFILIATES	NATURE OF PROGRAM	ENTRANCE REQUIREMENTS	AVERAGE CLASS SIZE	TUITION AND FEES	STIPEND OR WAGE	CREDENTIALS EARNED
TEACHER, SPECIAL EDUCATION (Contd)	University of Hartford		4 year undergraduate and graduate programs	Admission to University of Hartford		$1,100 per semester		Bachelor of Science Degree M. Ed, 6th year certificate or CAGS
VETERINARIAN - Please see PRE-VETERINARY MEDICINE Program								
VETERINARY ASSISTANT 356.874	Manchester Community College (proposed program)		For complete information, contact school - to be determined					
WARD CLERK (Nursing Unit Clerk) 219.388	Bridgeport Hospital	None	4 weeks of academic and on-the-job training. Classes begin at various times of the year	H.S. Diploma		For complete information, contact hospital		None
	Norwalk Hospital	None	Didactic and on-the-job training. For employees only	H.S. Diploma			Salary	
	Park City Hospital	None	6 weeks of academic and on-the-job training. Classes begin at various times of the year. For employees only	H.S. Diploma	4	None Dormitory facilities not available	$2.54 per semester	Certificate
	St. Joseph Hospital	None	On-the-job training. Classes begin at various times of the year. For employees only	H.S. Diploma	Individual Instruction	None Dormitory facilities not available	$406.25 per month	None
	Yale-New Haven Hospital	None	On-the-job training. Classes begin at various times of the year	H.S. Diploma	8-10	None Dormitory facilities not available	$459.43 per month	None

APPROVED AFFILIATIONS FOR MEDICAL TECHNOLOGY EDUCATION

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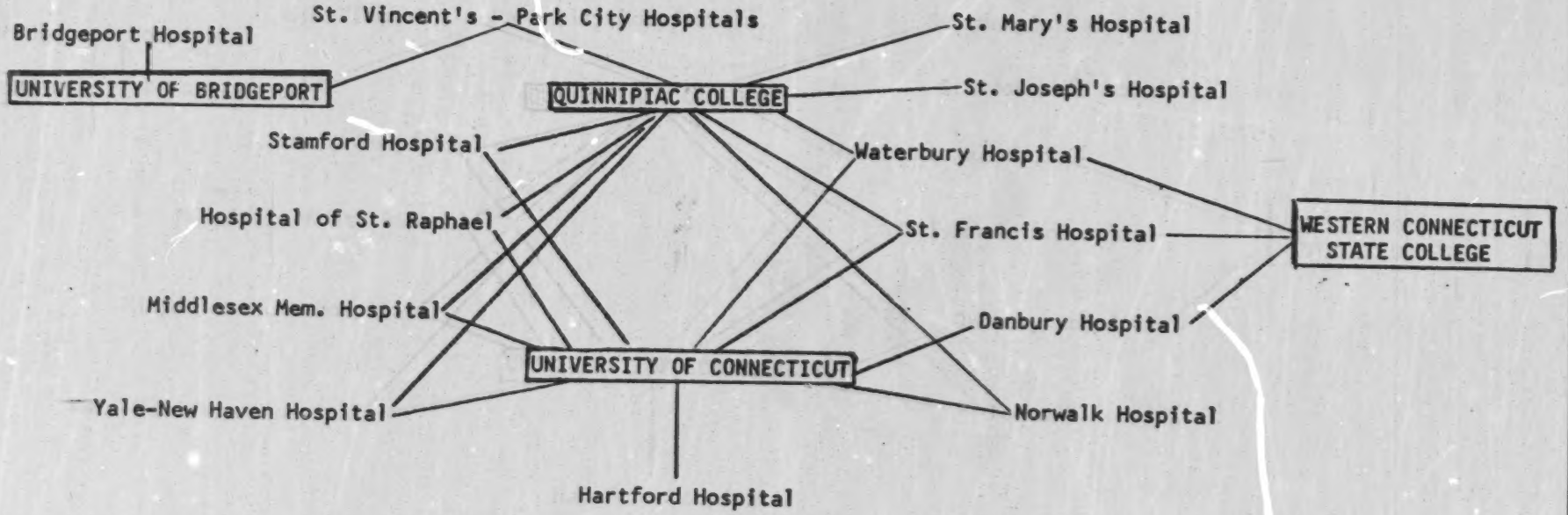
AMA APPROVED HOSPITAL SCHOOLS*

Bridgeport Hospital
Danbury Hospital
Hartford Hospital
Hospital of St. Raphael
New Britain General Hospital
Norwalk Hospital
St. Joseph Hospital
St. Mary's Hospital
St. Vincent's Hospital - Park City Hospital
Middlesex Memorial Hospital
Waterbury Hospital
Yale-New Haven Hospital

COLLEGES

Quinnipiac College
University of Bridgeport
University of Connecticut
Western Connecticut State College



*Approved by the Council on Medical Education of the American Medical Association in collaboration with the American Society of Clinical Pathologists and the American Society for Medical Technology. (Allied Medical Education Directory, 1973)

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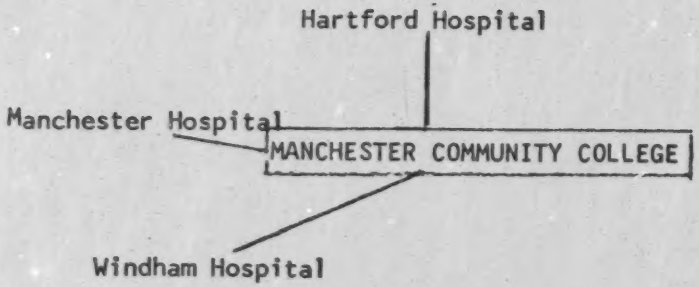
APPROVED AFFILIATIONS FOR CERTIFIED LABORATORY ASSISTANT EDUCATION

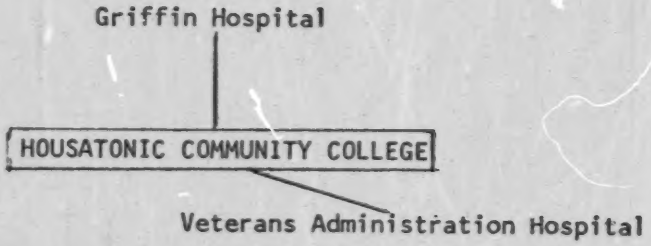
AMA APPROVED HOSPITAL SCHOOLS*

Griffin Hospital
Hartford Hospital
Manchester Memorial Hospital
Meriden-Wallingford Hospital
Veterans Administration Hospital
Windham Community Hospital

COLLEGES

Housatonic Community College
Manchester Community College





Suggestions for clinical training sites, with approved supervision:

Private laboratories
Departments of Health
Industry (pharmaceutical or research companies)

*Approved by the Council on Medical Education of the American Medical Assoication in collaboration with the American Society of Clinical Pathologists and the American Society of Medical Technologists.

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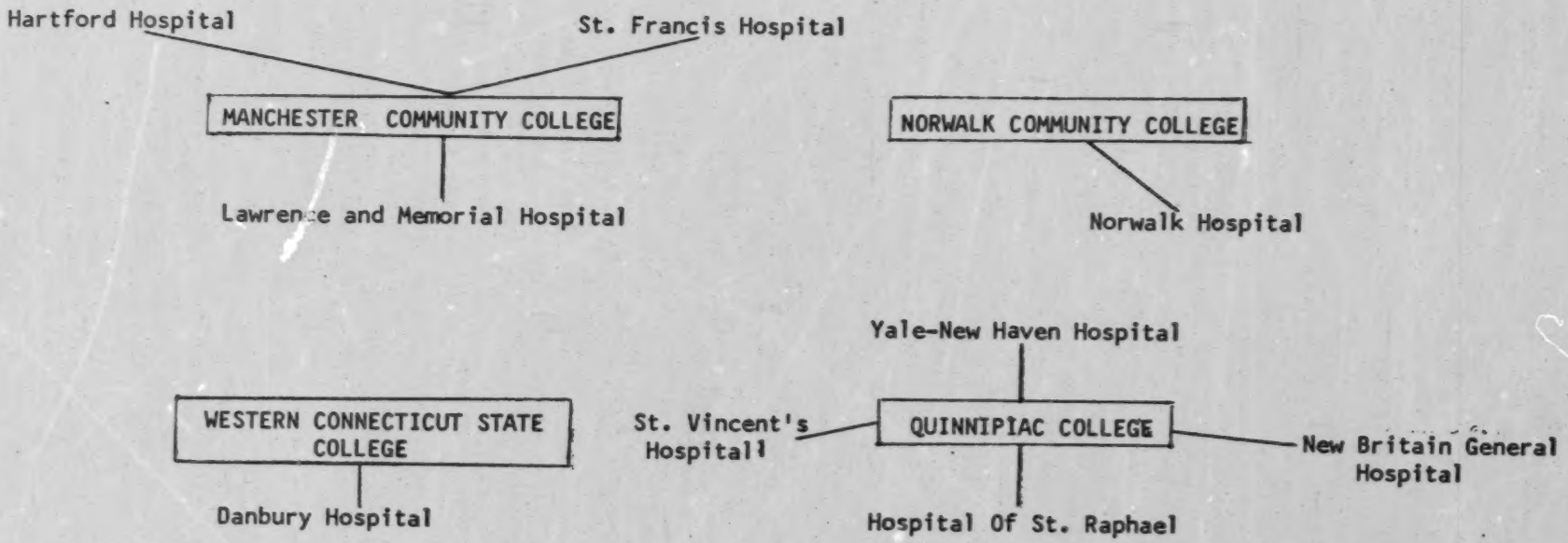
APPROVED AFFILIATIONS FOR RESPIRATORY THERAPY EDUCATION

AMA APPROVED HOSPITAL SCHOOLS*

Danbury Hospital
Hartford Hospital
Hospital of St. Raphael
Lawrence and Memorial Hospital
New Britain General Hospital
Norwalk Hospital
St. Francis Hospital
Yale-New Haven Hospital

COLLEGES

Manchester Community College
Norwalk Community College
Quinnipiac College
Western Connecticut State College



Suggestions for clinical training sites, with approved supervision: Extended Care Facilities

1Reported by Quinnipiac School of Allied Health.

*Approved by the Council on Medical Education of the American Medical Association in collaboration with the American Association for Respiratory Therapy, the American College of Chest Physicians, and the American Society of Anesthesiologists. (Allied Health Education Directory, 1973)

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APPROVED AFFILIATIONS FOR NURSING EDUCATION

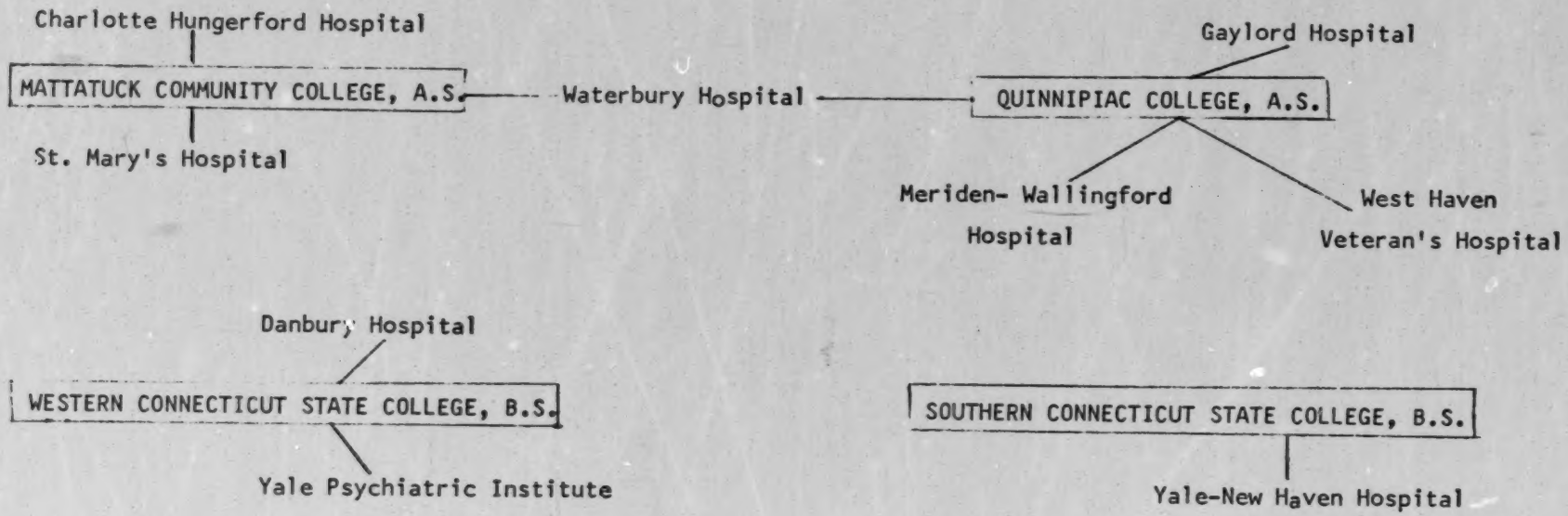
(Programs originating in educational institutions,
Associate and Baccalaureate Degrees)

HOSPITALS

William Backus Hospital
Danbury Hospital
Bridgeport Hospital
Fairfield Hills Hospital
Gaylord Hospital
Greenwich Hospital
Hartford Hospital
Charlotte Hungerford Hospital
Meriden-Wallingford Hospital
Norwalk Hospital
Park City Hospital
St. Joseph Hospital
St. Mary's Hospital
Stamford Hospital
Waterbury Hospital
West Haven Veteran's Hospital
Yale-New Haven Hospital
Yale Psychiatric Institute

COLLEGES*

Fairfield University*
Mattatuck Community College
Mohegan Community College
Quinnipiac College*
Southern Connecticut State College*
University of Bridgeport
Junior College*
University of Bridgeport
College of Nursing*
Western Connecticut State College*
Norwalk Community College*
University of Connecticut*



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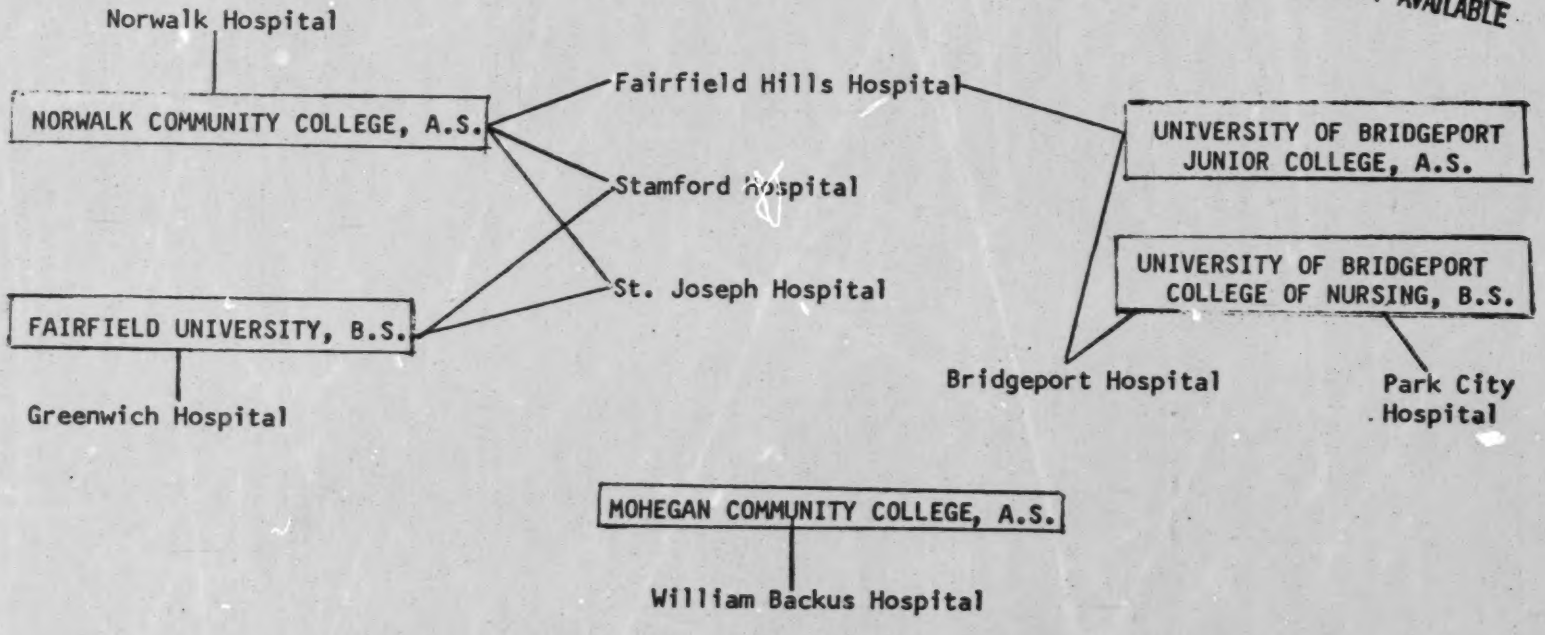

Suggestions for clinical training sites, with approved supervision:

Extended Care Facilities
Health Maintenance Organizations
Neighborhood Health Centers
Visiting Nurse Associations
Departments of Health
American Red Cross
School infirmaries
Physicians' offices
Drug and Alcohol Clinics
Chronic Disease Hospitals
Easter Seal Rehabilitation

*Approved by state authorities as reported by the National League for Nursing, 10 Columbus Circle, New York, New York.

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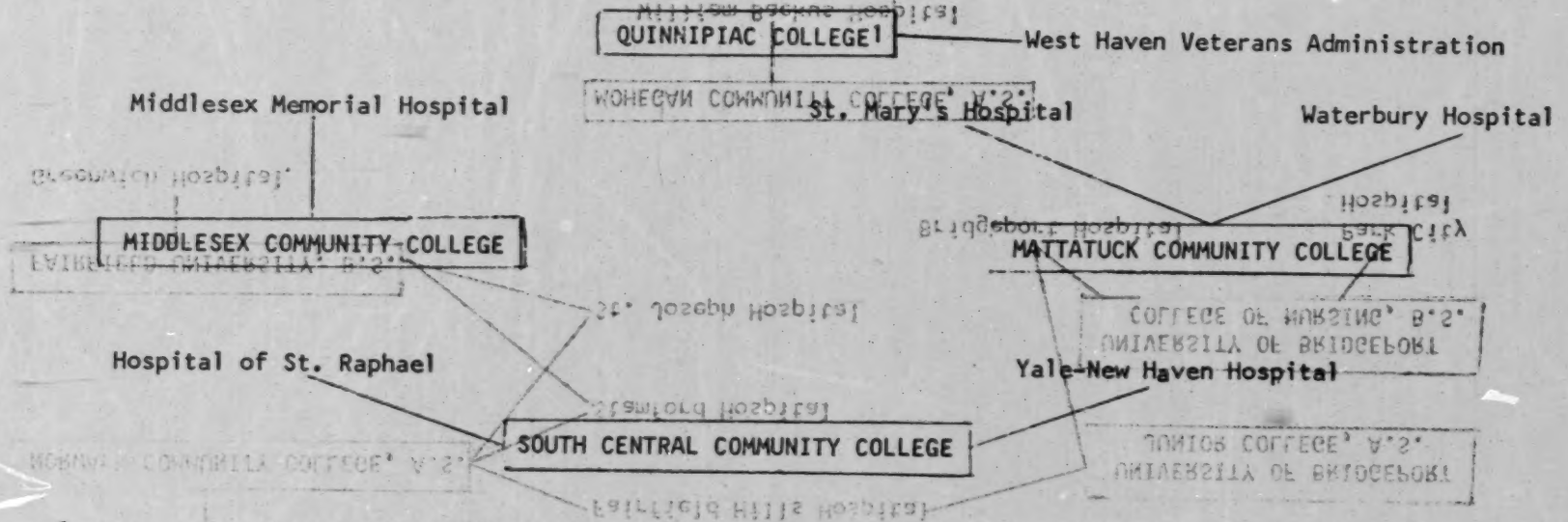
APPROVED AFFILIATIONS FOR RADIOLOGIC TECHNOLOGY EDUCATION

AMA APPROVED HOSPITAL SCHOOLS*

William W. Backus Hospital
Bridgeport Hospital
Bristol Hospital
Danbury Hospital
Hartford Hospital
Hospital of St. Raphael
Lawrence and Memorial Hospital
Manchester Hospital
Meriden-Wallingford Hospital
Middlesex Hospital
Mount Sinai Hospital
New Britain General Hospital
St. Francis Hospital
St. Joseph Hospital
St. Vincent's Hospital
Stamford Hospital
Veteran's Administration Hospital (W.H.)
Windham Community Mem. Hospital
Yale-New Haven Hospital

COLLEGES

Manchester Community College
Mattatuck Community College
South Central Community College
Quinnipiac College[1]



[1]Reported by Quinnipiac School of Allied Health.
*Approved by the Council on Medical Education of the American Medical Association in collaboration with the American College of Radiology and the American Society of Radiologic Technologists.
(Allied Medical Education Directory, 1973)

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Appendix A

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GRADUATE PLACEMENT DATA COMPILED FROM RESPONSES OF EDUCATORS TO CHE STUDY

(CIHMR QUESTIONNAIRE OCTOBER, 1973)

TABLE A

	Total grads	Grads known about	Total placed	% placed	Placed in Ct.	% in Ct.	Placed out of state	% out of state	% did not look	% did not find
BY GROUPS										
Administration (Health Care/Services Administrators, Hospital Administrators)	583	430	430	100	390	91	40	9	0	0
Dental (Dental Hygienists, Dental Assistants, Dental Laboratory Technicians)	505	241	190	78.8	186	77.2	4	1.7	10.8	10.4
Dietitian	8	8	3	37.5	0	0	3	37.5	62.5	0
Education (Health Educator and Special Education Teacher)	422	151	121	80.1	87	57.6	34	22.5	2.0	17.9
Environmental Health (Environmental Health Technicians and Technologists)	43	4	4	100	4	100	0	0	0	0
Laboratory (Medical Technologists, Cytotechnologists, Certified Laboratory Assistant, Medical Laboratory Technician)	419	157	114	72.6	111	70.7	3	1.9	16.6	10.8
Medical Records (Medical Transcriptionist)	1	1	1	100	0	0	1	100	0	0
Nursing (Registered Nurses, Licensed Practical Nurses, Nursing Aides, Psychiatric Aides)	7298	5339	4699	88	4341	81.3	358	6.7	9.2	2.8
Physician Assistants (Physician Assistant in Pathology, Physician Associates)	18	18	18	100	7	38.9	11	61.1	0	0
Radiology (Radiologic Technologists, Radiation Therapy Technologist, Nuclear Medicine Technologist)	451	360	330	91.7	287	79.7	43	11.9	3.6	4.7

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	Total grads	Grads known about	Total placed	% placed	Placed in Ct.	% in Ct.	Placed out of state	% out of state	% did not look	% did not find
Rehabilitation (Physical Therapist, Occupational Therapist and Assistant, Speech Pathologist and Audiologist, Recreation Therapist and Assistant, Rehabilitation Counselor, Rehabilitation Services, Orthotist and Prosthetist)	556	351	305	86.9	129	36.8	176	50.1	2.8	10.3
Respiratory (Respiratory Therapist, Respiratory Therapy Technician)	285	242	229	94.6	214	81.3	15	6.2	3.3	2.1
Social Service (Social Worker MSW, Social Worker B.S., Mental Health Worker, Social Service Aide)	841	14	14	100	12	85.7	2	14.3	0	0

TABLE B

BY LENGTH OF PROGRAM

1 year programs	3227	2662	2554	95.9	2424	91.1	130	4.9	2.4	1.7
2 years and A.S.	1798	1010	873	85.9	750	74.3	123	12.2	5.4	8.1
2 years and less	5025	3672	3427	93.3	3174	86.4	253	6.9	3.2	3.5
4 years and B.S.	1582	553	478	86.4	278	50.3	220	39.8	6.3	3.6
5 years and more	800	206	205	99.5	99	48.1	106	51.5	0	0.4

It is interesting to compare the percent placed in Connecticut to the comparable figures of students remaining in the state used in the New Jersey Master Plan. In-state survival rate for graduates of programs from two years or less was at 80 percent, for programs from two to four years at 65 percent and for programs of five years or more at 50 percent (excluding pharmacists).*

The greatest similarily noted is that of five years or more of training. This similarity is probably due to the greater mobility of these students, and due to the observation that many students hail from out of state (many programs are offered regionally). The closeness of these figures lend credibility to the data compiled. The difference between the two states may be due to geographical locations, employments opportunities, a comparison of different programs, etc.

*New Jersey Department of Higher Education. Health Profession Education Master Plan, Part II. Trenton, New Jersey, May 1973, p. 91.

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GRADUATE PLACEMENT DATA COMPILED FROM RESPONSES OF EDUCATORS TO CHE STUDY

(CIHMR QUESTIONNAIRE OCTOBER, 1973)

TABLE C

	Total grads	Grads known about	Total placed	% placed	Placed in Ct.	% in Ct.	Placed out of state	% out of state	% did not look	% did not find
BY PROGRAM										
Health Care Administrator	430	430	430	100	390	90.7	40	9.3	0	0
Dental Assistant	270	241	190	78.8	186	77.2	4	1.7	10.8	10.4
Dietitian	8	8	3	37.5	0	0	3	37.5	62.5	0
Teacher, Special Education	422	151	121	80.1	87	57.6	34	22.5	2.0	17.9
Environmental Health Technician	9	3	3	100	3	100	0	0	0	0
Environmental Health Technologist	1	1	1	100	1	100	0	0	0	0
Cytotechnologist	69	26	16	61.5	16	61.5	0	0	19.2	19.2
Certified Laboratory Assistant	82	44	44	100	44	100	0	0	0	0
Medical Laboratory Technician	114	108	84	77.8	82	75.9	2	1.9	11.1	11.1
Medical Technologist	154	23	14	60.9	13	56.5	1	4.3	39.1	0

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	Total grads	Grads known about	Total placed	% placed	Placed in Ct.	% in Ct.	Placed out of state	% out of state	% did not look	% did not find
Medical Transcriptionist	1	1	1	100	0	0	1	100	0	0
Registered Nurse, Diploma	1222	737	737	100	675	91.6	62	8.4	0	0
Registered Nurse, A.S.	344	67	58	86.6	15	22.4	43	64.2	7.5	6.0
Registered Nurse, B.S.	674	218	218	100	161	73.9	57	26.1	0	0
Registered Nurse, M.S.	81	68	68	100	44	64.7	24	35.3	0	0
Nurse, Anesthetist	44	43	43	100	32	74.4	11	25.6	0	0
Nurse Midwife	30	28	28	100	12	42.9	16	57.1	0	0
Adult Nurse Practitioner	4	4	4	100	4	100	0	0	0	0
Pediatric Nurse Associate	36	34	34	100	23	67.6	11	32.4	0	0
Nurse, Ob,gyn	3	3	3	100	3	100	0	0	0	0
R.N. Total	2462	1202	1193	99.3	969	80.6	224	18.6	0.4	0.3
ADN, BSN, Diploma Total	2241	1022	1013	99.1	851	83.3	162	15.9	0.5	0.4

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	Total grads	Grads known about	Total placed	% placed	Placed in Ct.	% in Ct.	Placed out of state	% out of state	% did not look	% did not find
Licensed Practical Nurse	2597	2122	2069	97.5	1959	92.3	110	5.2	1.6	0.9
Nursing Aide	2021	1782	1204	67.6	1180	66.2	24	1.3	25.4	7
Psychiatric Aide	217	217	217	100	217	100	0	0	0	0
Physician Assistant in Pathology	4	4	4	100	2	50	2	50	0	0
Physician Associate	14	14	14	100	5	35.7	9	64.3	0	0
Radiologic Technologist	442	360	330	91.7	287	79.7	43	11.9	3.6	4.7
Physical Therapist	236	236	236	100	86	36.4	150	63.6	0	0
Occupational Therapy Assistant	68	49	20	40.8	15	30.6	5	10.2	6.1	53.1
Speech Pathologist and Audiologist	44	44	44	100	22	50	22	50	0	0
Recreation Therapist	27	7	7	100	4	57.1	3	42.9	0	0
Rehabilitation Counselor	42	35	34	97.1	17	48.6	17	48.6	0	2.9
Rehabilitation Services, B.S.	71	23	9	39.1	5	21.7	4	17.4	30.4	30.4

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	Total grads	Grads known about	Total placed	% placed	Placed in Ct.	% in Ct.	Placed out of state	% out of state	% did not look	% did not find
Orthotist and Prosthetist	6	6	6	100	6	100	0	0	0	0
Respiratory Therapist	120	85	73	85.9	67	78.8	6	7.1	9.4	4.7
Respiratory Therapy Technician	165	158	156	98.7	147	93.0	9	5.7	0.6	0.6
Social Worker, B.S.	371	33	7	21.2	7	21.2	0	0	39.4	39.4
Mental Health Worker	51	8	7	87.5	5	62.5	2	25.0	12.5	0
Surgical Technician	112	96	94	97.9	88	91.7	6	6.3	2.0	0
Clinical Psychologist	31	31	31	100	4	12.9	27	87.1	0	0
Pharmacist	257	256	238	93.0	149	58.2	89	34.8	7	0

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Appendix B

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PUBLIC ACT NO. 140

AN ACT CONCERNING CONTRACTS WITH INDEPENDENT COLLEGES FOR PROGRAMS, FACILITIES, AND SERVICES BY THE COMMISSION FOR HIGHER EDUCATION.

Be it enacted by the Senate and House of Representatives in General Assembly convened:

Section 1. In order to secure for the citizens of Connecticut the additional advantages which would accrue under more widely cooperative arrangements between the public colleges and the independent colleges, the commission for higher education is authorized to enter into contracts with the independent colleges. Such contracts shall encourage, promote, and coordinate educational developments which are mutually beneficial to the citizens of the state and the independent colleges, increase the use of available facilities, prevent the duplication of expensive and specialized programs, and further motivate cooperative efforts by the public system of higher education and the independent colleges to direct their work to the solution of contemporary societal problems.

Sec. 2. For the purposes of this act (1) a program is defined as a course of study leading to certification, licensure, certificate, or degree at all post-secondary levels; (2) a facility is defined as a building or an area within a building, a group of buildings, a special area, or specialized items of equipment used for educational purposes; (3) a service is defined as a formal activity designed to explore scientific, technological, or humanistic problems, to find solutions to contemporary societal problems or to provide selected public service or student service activities; (4) an independent college or university is a college or university located in this state which is not included in the Connecticut system of public higher education and whose primary function is other than the preparation of students for religious vocation.

Sec. 3. The commission for higher education is authorized to contract with independent colleges and universities for the use of programs, facilities, and services as defined in section 2 of this act. The commission for higher education shall provide continuing evaluation of the effectiveness of such contracts and shall submit

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annual reports and recommendations to the governor and the joint standing committee on education. In administering this act, the commission for higher education shall develop and use fiscal procedures designed to insure accountability of public funds.

Sec. 4. This act shall take effect July 1, 1972.

Certified as correct by

_____

Legislative Commissioner.

_____

Clerk of the Senate.

_____

Clerk of the House.

Approved _____, 1972.

_____

Governor.

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Appendix C

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CONNECTICUT EDUCATION/EMPLOYMENT STUDY FOR HEALTH MANPOWER

Section D. CONNECTICUT EMPLOYMENT OF SELECTED HEALTH OCCUPATIONS

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Summary of All Occupations..... D - 9

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INTRODUCTION AND METHODOLOGY

The information presented in this section has been derived solely from the employer questionnaire prepared for the education - employment study which was distributed to health care and health related facilities as described in the methodology appendix.

A total of 1,270 questionnaires was sent to employers of health personnel in Connecticut representing 15 different types of facilities (see table B).* Five hundred seventeen of these questionnaires were returned and used to compile the data presented here. Complete information on the number of questionnaires sent and returned by type of facility is provided in the appendices.

Due to limitations of time and finances, it was not feasible in include private physicians' and dentists' offices in the survey. Therefore, for those occupations extensively employed in private offices, the data presented here are not complete. Wherever possible these data have been augmented with information from licensing or other sources to accommodate for these gaps.

Occupations Investigated:

The original list of occupations used in the employer questionnaire included a total of 78 different categories. The respondents were requested also to include information on any additional health occupations not listed that they employed or planned to employ. Due to these additions, the number of categories increased to 127 after coding. When the final tabulations were complete and the data were examined, this list was reduced to a final listing of 68 categories for which employment data are presented. These categories are shown in table A.

The primary reason for choosing these 68 categories was that the information on them was as accurate and complete as possible. However, some occupations were included despite the fact that they were employed to a significant degree outside the facilities surveyed. These were included because of their obvious significance to the health field, e.g., nurses, or because they represent current or future topics of interest or importance. The possibility that the major employers of some of these occupations were not surveyed should be considered when the data are reviewed.

* Note: Originally, questionnaires were also sent to ambulance services. However, the requested employment information was not submitted since the majority of the small return were voluntary associations. Therefore, they are not included in this presentation of the survey.

TABLE A. LIST OF OCCUPATIONAL CATEGORIES

Administration
- Hospital Administrator
- Nursing Home Administrator
- Health Care & Services Administrator

Dental
- Dental Hygienist:
  - A.S.
  - B.S.
  - Degree unspecified
- Dental Assistant
- Dental Laboratory Technician

Dietitian

Education
- Health Educator
- Teacher, Special Education

Environmental Health
- Environmental Health Technologist
- Environmental Health Technician
- Environmental Health, unspecified

Laboratory
- Histologic Technician
- Cytotechnologist
- Certified Laboratory Assistant
- Medical Laboratory Technician
- Medical Technologist
- Med. Tech. & M.L.T combined
- Medical Laboratory Assistant (OJT)

Medical Records
- Medical Record Librarian
- Medical Record Technician
- Medical Transcriptionist

Nursing
- R.N.
- L.P.N.
- Nursing Aide
- Psychiatric Aide
- Correctional Attendant I
- Pediatric Nurse Associate
- Adult Nurse Practitioner
- Nurse Midwife
- Nurse Anesthetist

Physician Assistant
- Physician Assistant in Pathology
- Physician Associate

Radiology
- Radiologic Technologist
- Radiation Therapy Technologist
- Nuclear Medicine Technologist

Rehabilitation Therapy
- Speech Pathologist and Audiologist
- Counselor, Rehabilitation Services
- Rehabilitation Aide
- Orthotist and Prosthetist

Physical Therapy:
- Physical Therapist
- Physical Therapy Assistant
- Physical Therapy Aide

Occupational Therapy:
- Occupational Therapist
- Occupational Therapy Assistant
- Occupational Therapy Aide

Recreation Therapy:
- Recreation Therapist
- Recreation Therapy Assistant
- Recreation Worker
- Recreation Aide

Respiratory Therapy
- Respiratory Therapist
- Respiratory Therapy Technician
- Pulmonary Function Technician

Social Services
- Social Worker:
  - M.S.W.
  - B.S.
  - Degree unspecified
- Social Service Aide
- Community Health Aide
- Mental Health Worker

Technicians
- Biomedical Equipment Technician
- Surgical Technician

Additional Occupations
- Clinical Psychologist
- Pharmacist
- Medical Librarian
- Biological Photographer
- Medical Illustrator

As may be noted in table A these 68 categories actually represent only 57 occupations. Social worker and dental hygienist have more than one category due to variations in the type of degree held by the employee. An additional category, degree unspecified, was used when the employer could not provide information in this detail. Summations of all categories in one occupation have been presented, as well as data for the individual categories for the type of degree held.

Some new categories were also required when employers were unable to correlate their job descriptions with our occupational definitions, e.g., "medical technologist and medical laboratory technician combined." This was a recurring problem throughout the study caused by the discrepancy between the description of the educational programs, upon which the occupational titles and definitions in the questionnaire were based, and the job titles and descriptions used by employers. These variances should be considered when reviewing the data presented herein, especially in comparison to educational data.

Types of Data Presented:

The employer questionnaire requested information on current number employed, both part- and full-time; number of females employed part- and full-time; current number of vacancies; annual turnover; and projected total budgeted positions for both 1975 and 1980.

These projections were given as the current opinion of the respondent to the questionnaire, rather than projections based on more objective considerations such as the economy and population growth. Therefore these projections as perceived by the employers should be considered only as possible indicators of the nature and extent of future change, provided by professionals in the field, rather than definitive predictions. For those occupations employed to a large extent by the state agencies, these projections are probably low due to the general reluctance of the state agencies to project any change in employment opportunities.

Vacancies, turnover, and projections were requested in terms of full-time equivalents (FTE's). Whenever the employer did not provide us with the information in FTE's, the rough approximation of two part-time workers equal one FTE was used to calculate this figure.

This formula was also used to compute current employment in FTE from the number of people employed. For some occupations, such as dietitian and social worker, the results could be deceptive when

reviewing data from nursing homes. These facilities tend to employ certain types of personnel on a contractual basis for only a few hours a week. In general, the nursing homes listed these personnel as working part-time and therefore they were counted as .5 FTE, giving inflated figures for the number of FTE's employed. Further complications are possible as some of these people may be employed simultaneously by two or more institutions and thus would be counted more than once. The data on employment in nursing homes for these specialty occupations must be viewed with this particular employment pattern in mind.

Turnover was calculated as the total number of job vacancies, in FTE, due to the separation of an employee for any reason over the last year, divided by the current number employed in FTE. This method is not standard but was necessitated by the limitations of the data provided on the questionnaire. This annual turnover rate is not generally comparable to other rates, such as those from the Labor Department. However, it is of interest when comparing the employment patterns among different types of occupations or facilities presented herein.

Missing Data:

A significant number of the facilities did not provide all the data requested. Most frequently they did not give one or both projections. Occasionally they did not provide the turnover information or left blank the section on vacancies. We accommodated for these missing data in several ways, depending on the type of data.

The rates presented, percent female and annual turnover rate, were calculated using only those responses for which all necessary data were given. Therefore, except in those cases where very few responded in a small category, these rates should be accurate.

Those questionnaires with blank vacancy sections were examined in detail. From experience in interviews and followup calls, it was felt that the majority had left this section blank because they had no vacancies, and therefore this could be safely interpreted as "zero". Those returns where this interpretation was questionable (11 questionnaires) were compared to the returns from similar facilities that had provided information on vacancies. It was determined from this comparison that in coding these blanks as zero, the number of vacancies missed by occupation would be so small as to be almost negligible. Therefore, all missing data for number of vacancies were treated as zero.

Missing data for the projections were much more frequent than in other categories and therefore presented a greater problem. These missing data were coded in two ways: 1) "C" was used when it was

indicated, either in the subjective questions or in interview, that there were no plans for expansion or other change in the facility and therefore the total budgeted positions would probably remain constant; 2) "N" was used when there was no solid indication throughout the questionnaire of exactly if and how the number of budgeted positions would change.

Using these two codes, the projections as perceived by the employer were calculated by three different methods to provide a range of figures.

Method A assumed that the total number of budgeted positions in all those facilities with missing data, both "N"s and "C"s, would remain constant. This provided a conservative estimate of the projections.

Method B assumed that the "N"s would change at the same rate as that exhibited by similar facilities responding to this question, and the "C"s would remain constant. This would give an intermediate figure.

Method C assumed that both the "N"s and "C"s would change at the rate demonstrated by the respondents. This would be the most extreme projection given. (It may be noted here that on occasion the respondents indicated a decrease in a particular occupation, rather than the usual increase. In these cases method A would produce a figure higher than one produced by method C, instead of the reverse as would be expected.)

Extrapolation:

Once these data, as described above, were compiled and calculated it was necessary to extrapolate these figures to account for those facilities that did not respond at all to the questionnaire. Table B gives the factors used for the extrapolation by type of facility.

In general, the extrapolation factor is the inverse of the percent of questionnaires returned. However, there are some exceptions:

For chronic disease and psychiatric hospitals, bed-size was used for extrapolation rather than a straight percent return. For example, if 10 facilities representing a total of 1,000 beds were sent questionnaires and five responded, representing 700 beds, the extrapolation factor would be 1,000/700 rather than 10/5.

TABLE B - EXTRAPOLATION FACTORS

Type of Facility	Factor
Hospitals:	
General and V.A.	1.00
Psychiatric	
State	1.00
Private	1.19
Chronic Disease	1.06
Nursing Homes	3.70
Rest Homes with Nursing Supervision	3.57
Visiting Nurse Associations	1.58
Clinical Laboratories	3.02
Industrial Infirmaries	3.44
State Agencies (excluding state hospitals)	1.00
Dental Laboratories	3.18
Neighborhood Health Centers and Health Maintenance Organizations	2.20
School Infirmaries	3.07
M.D. Group Practices	4.40
Physical Therapy Contractors	1.20
Voluntary Health Organizations	2.67
Local Health Departments	4.00
Drug Clinics	5.40

The number of rest homes with nursing supervision responding to our questionnaire was too small to consider those returns as a representative sample, and therefore extrapolation by percent returned would be inaccurate. The returns were briefly analyzed and it appeared that the staffing patterns were more directly proportional to bed-size than to the number of facilities. Therefore, bed-size was also used for extrapolation here.*

Only one general hospital, World War II Veterans Memorial, did not respond to our questionnaire. As this hospital represented less than one percent of the total hospital beds in Connecticut, and as it was questionable that bed-size would be an adequate extrapolation factor in this case, no attempt was made to account for this one facility.

Similarly, no attempt was made to account for non-respondents from the state agencies or facilities that were sent employer questionnaires. (100% response was received from all state hospitals, general, psychiatric, and chronic disease, which were the largest employers in this category.)

Concerning dental laboratories, 22 out of 70 responded to the questionnaire. However, all four of the largest laboratories in Connecticut, which employ a significantly greater number of dental laboratory technicians than the average lab, did respond to the questionnaire and therefore this is not a representative sample. Unfortunately no supplemental data were available to accurately determine the nature of our sample, so a straight extrapolation figure was used. These data for dental labs therefore must be considered as skewed upward.

As can be seen from table B, some of these extrapolation factors are quite large. This can cause some problems when looking at the employment patterns of certain types of facilities as an isolated sample. For example, if only one facility that responded employs one person in a particular occupation, the turnover rate could easily be 100%, or the percent female could equal zero; this could certainly not be representative of that occupation or that facility. In the same example, the extrapolated figures could show the number employed as five or more when actually only one or two were reported, and this could increase the deception. This problem should be considered when reviewing data in categories where the employment is very low and the extrapolation factors are high.

* Note: The returns from the nursing homes were also examined and were found to be a representative sample by bed-size category. Also, the percent return by number of facilities and the percent by bed-size came within .5 of each other. Therefore, a straight percent return extrapolation factor was used.

Presentation of Data:

The extrapolated data are presented by type of occupation accompanied by a brief narrative in the following pages. The data for each occupation are presented in a table which is divided into two sections.

The first section gives summary information for all the facilities surveyed in the first column, and then data by type of facility for the following:

- General and VA hospitals
- Psychiatric hospitals (state and private combined)
- Chronic disease hospitals (state and private combined)
- Nursing homes
- Rest homes with nursing supervision
- Visiting nurse associations
- Clinical laboratories
- Industrial infirmaries
- State agencies (excluding state hospitals)
- All other employers combined

Data from these other employers are given in detail in the second section of the table and include:

- Dental laboratories
- Neighborhood Health Centers & Health Maintenance Orgs.
- School infirmaries
- MD group practices
- Physical therapy contractors or groups
- Voluntary health organizations (incl. Red Cross & Easter Seal)
- Local Health departments
- Drug clinics

Also included in this chart are data summarized for all hospitals combined (general, psychiatric, and chronic disease); for extended care facilities (nursing homes and rest homes with nursing supervision); and for all state agencies including all state hospitals. Summary tables in the same format are also given for the groups of occupations as listed in table A and for all occupations surveyed.

1. Summary of All Occupations:

Table 1 present summary information for all occupations that were studied. Table 2 shows the relative size of selected groups of occupations, e.g., nursing, laboratory, that were employed in the surveyed facilities.

As can be seen from table 1, approximately 41,100 people in the 57 different occupations studied are employed in the surveyed facilities. General and VA hospitals are the single largest employer with 17,300 people. All hospitals combined employ 21,900 people. Nursing homes are the second largest single employer with 12,200 people. All extended care facilities employ 13,200. The state agencies and facilities including state hospitals, employ 4,670*, or 11.4% of all the people reported in all facilities.

Approximately 68% of these people work full-time, 32% part-time. The ratio of full-time to part-time workers in hospitals is almost identical to that for all facilities combined. However, nursing homes, rest homes, and school infirmaries have a higher proportion of part-time workers, approximately 45%. Several of the other facilities, psychiatric hospitals, dental labs and local health departments, for example, have a much greater proportion, above 90%, of full-time workers. Notably, only 1.1% of the employees of the state, excluding state hospitals, work part-time.

For all facilities surveyed, 87% of the full-time workers were female and 95% of the part-time workers were female. In examination of individual types of facilities, there was either an equal or greater proportion of females in the part-time workers than in the full-time workers, with only two exceptions: MHC's-HMO's and MD group practices.

There were a total of 1,547 vacancies representing a vacancy rate of 4.3%. According to a representative of the Connecticut Hospital Association, a vacancy rate of three to five percent is average for a hospital at this time and it would be difficult to reduce this rate due to normal turnover, unpopularity of second and third shifts, and vacancies retained for flexibility in budget.

* Note: This does not include the unknown number of special education teachers employed in the school system.

If this logic can be applied to other facilities as well, it appears that this is a normal vacancy rate and that, on the average, there is no current extreme difficulty in filling positions.

However, there are several facilities that do exhibit a vacancy rate above five percent. Both psychiatric and chronic disease hospitals have a higher than average rate, 9.0% and 7.7% respectively. The state hospitals could be the cause for the high rate in these categories. The rate for the state as an employer, excluding hospitals, is 7.9%, slightly lower than the rate including hospitals, 8.7%. The rate for all hospitals combined is an average 5.1%. The presence of the state hospitals in these categories could have affected these rates for a variety of reasons: Less attractive salaries offered by the state; frozen positions that are inaccurately listed as vacancies; and the recent expansion of employment in the Connecticut State Department of Mental Health, resulting in new, as yet unfilled, positions.

NHC's and HMO's show the highest vacancy rate at 14.1. Recent expansion could be the cause. School infirmaries are also high at 9.7, while both dental labs and physical therapy groups are around 6.5.

The average annual turnover rate for all occupations in all facilities is 22.2. Facilities exhibiting the highest turnover rates are nursing homes at 30.5, school infirmaries at 32.9, voluntary health organizations at 32.5, and drug clinics at 29.0. The lowest rates are seen in industrial infirmaries at 7.6, and local health departments at 4.2. General hospitals, at 22.5, are again about average.

The projections as perceived by the employers reveal an average range of increase for all facilities of 9.8% to 16% by 1975, and 15.6% to 25.8% of 1973 employment opportunities by 1980. Some of the largest percentage increases were seen in rest homes, dental labs, NHC's and HMO's, physical therapy groups, and drug clinics, ranging up to or over a 50% increase by 1980.

In examining data on individual occupations it becomes apparent that the state, through its various agencies and facilities, appears to be a significant employer (i.e., employs 20% or more) of several occupations or occupational groups including: Clinical psychologist; psychiatric aide; social services in general, social worker in particular; rehabilitation therapy in general, occupational therapy (all occupations), and counselor-rehabilitation services, in particular.

Table 2 shows the relative sizes of various groups of occupations. Nursing is by far the largest group, claiming 75% of the current employment opportunities. Laboratory workers form the next largest group at 4.9%. Rehabilitation has approximately 4.3% of all employment opportunities. Radiology, social services, and dental occupations are between 2.2% and 2.5% each. The remainder of the groups represent 8.7% combined.

Comparing rates within the different groups, the nursing group has the highest ratio of part- to full-time workers. Also, it appears that social services has a high proportion of vacancies while radiology has a comparatively low proportion.

The projected proportions of these occupations reveal a slight decrease in nursing, from 75% of the current employment opportunities to 72.8% of the projected employment opportunities for 1980. Laboratory, radiology, and the combined groups remain approximately the same. However, rehabilitation, social services, and dental all show a slight upswing: 4.3% to 5.1%, 2.2% to 3.0%, and 2.4% to 3.0%, respectively. This could reflect the trend away from crisis-oriented, in-patient care towards preventive-ambulatory care. However, the differences are too small over too short a time period to be conclusive.

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EMPLOYMENT PATTERNS OF SELECTED HEALTH OCCUPATIONS IN CONNECTICUT - SEPTEMBER 1973

Table 1
SUMMARY OF
ALL OCCUPATIONS

	All Facilities Surveyed	All Hospitals			Extended Care Facilities		VNAs	Clinical Labs.	Industrial Infirmaries	State (excl. Hosp.)	Other Employers (Total)
		General and VA Hospitals	Psych. Hosp.	Chronic Disease Hosp.	Nursing Homes	Rest Homes					
Full-time Employees	28,118	11,964	2923	1141	6584	544	576	386	532	1209	2259
% female full-time	86.6	90.1	73.3	90.5	96.4	96.2	99.6	74.3	94.1	45.4	
Part-time employees	12,972	5401	191	247	5637	481	303	72	71	13	556
% female part-time	94.8	95.0	82.0	92.9	96.2	96.7	99.6	100	100	86.3	
Total number employed	41,090	17,365	3114	1388	12,221	1025	879	458	603	1222	2815
Number employed-FTE	34,610.4	14,664.5	3014.6	1266.0	9404.6	782.0	726.1	422.6	569.2	1215.5	2545.3
Vacancies-FTE	1546.9	622.8	297.0	105.9	172.2	48.2	17.7	18.5	17.2	104.0	143.4
Total Employment opportunities-FTE	36,157.3	15,287.3	3311.6	1371.9	9576.8	830.2	743.8	441.1	586.4	1319.5	2688.7
Annual Turnover rate	22.2	22.5	17.0	22.4	30.5	18.6	17.5	14.3	7.6	20.5	
Employer Perceived Projections											
1975: Method A	39,728.9	15,791.0	3753.4	1436.0	11,307.1	1030.1	863.1	472.9	601.8	1332.0	3141.5
Method B	41,049.6	15,965.0	3812.5	1435.9	12,016.4	1289.2	871.7	490.7	602.5	1294.0	3271.7
Method C	41,927.5	15,977.4	3812.5	1435.9	12,800.3	1322.9	879.9	497.6	605.9	1294.0	3300.7
1980: Method A	41,813.1	16,791.5	3866.6	1528.8	11,525.7	990.8	967.4	542.5	655.3	1387.0	3557.5
Method B	44,357.5	17,344.6	3972.6	1580.9	12,559.6	1242.2	992.4	591.6	659.4	1632.2	3782.0
Method C	45,480.0	17,410.7	4030.2	1580.9	13,442.8	1272.5	1009.7	609.7	671.7	1632.2	3819.6

Table 1 (Cont'd.) SUMMARY OF ALL OCCUPATIONS	Other Employers								All Hosp.	ECFs (Nursing & rest homes)	State (including State Hosp.)
	Dental Labs.	NHC & HMO	School Infirmaries	Group Practices	Phys. Therapy Groups	Vol. Health Orgs.	Local Health Depts.	Drug Clinics			
Full-time Employees	553	353	92	303	38	385	384	151	16,028	7128	4469
% female full-time	28.5	81.4	97.2	97.1	83.8	77.5	82.3	21.4			
Part-time employees	45	60	73	118	8	148	20	84	5839	6118	201
% female part-time	71.4	44.4	100	94.5	100	89.2	83.3	62.5			
Total number employed	598	413	165	421	46	533	404	235	21,867	13,246	4670
Number employed-FTE	575.6	387.2	129.0	363.2	42.6	459.3	394.0	194.4	18,945.1	10,186.6	4569.5
Vacancies-FTE	39.7	63.8	13.9	4.4	3.0	18.6	0	0	1025.7	220.4	436.5
Total Employment opportunities-FTE	615.3	451.0	142.9	367.6	45.6	477.9	394.0	194.4	19,970.8	10,407.0	5006.0
Annual Turnover rate	22.8	16.8	32.9	18.8	25.8	32.5	4.2	29.0			
Employer Perceived Projections											
1975: Method A	742.5	576.4	162.8	374.2	51.6	562.2	418.0	253.8	20,980.4	12,337.2	
Method B	755.3	609.9	165.3	384.4	69.5	605.1	419.2	263.0	21,213.4	13,305.6	
Method C	759.7	612.9	171.4	391.8	69.5	605.1	422.4	267.9	21,225.8	14,123.6	
1980: Method A	968.3	710.6	167.5	369.8	55.2	579.3	426.0	280.8	22,186.9	12,516.5	
Method B	1003.6	770.2	177.0	373.3	81.3	656.7	427.2	292.7	22,898.1	13,801.8	
Method C	1016.0	777.2	183.1	374.6	81.3	656.7	430.4	300.3	23,021.8	14,715.3	

EMPLOYMENT PATTERNS OF SELECTED HEALTH OCCUPATIONS IN CONNECTICUT - SEPTEMBER 1973

Table 2

Summary of all Occupations	Nursing	%	Labo-ratory	%	Rehab.	%	Radi-ology	%	Social Ser-vices	%	Dental	%	Other	%	Total
Full-time Employees	20,626	73.4	1532	5.4	1230	4.4	780	2.8	576	2.0	788	2.8	2586	9.2	28,118
Part-time employees	10,745	82.8	341	2.6	502	3.9	199	1.5	283	2.2	71	.6	831	6.4	12,972
Total number employed	31,371	76.3	1873	4.6	1732	4.2	979	2.4	859	2.1	859	2.1	3417	8.3	41,090
Number employed-FTE	25,992.9	75.1	1704.0	4.9	1484.9	4.3	879.7	2.5	719.5	2.1	824.4	2.4	3005.0	8.7	34,610.4
Vacancies-FTE	1122.3	72.6	77.4	5.0	81.0	5.2	19.4	1.3	72.6	4.7	47.0	3.0	127.2	8.2	1546.9
Total Employment opportunities-FTE	27,115.2	75.0	1781.4	4.9	1565.9	4.3	899.1	2.5	792.1	2.2	871.4	2.4	3132.2	8.7	36,157.3
Employer Perceived Projections															
1975: Method A	29,470.5	74.2	1901.5	4.8	1903.6	4.8	951.1	2.4	1016.9	2.5	1036.3	2.6	3449.0	8.7	39,728.9
Method B	30,400.4	74.1	1939.7	4.7	2034.5	4.9	980.7	2.4	1092.3	2.7	1049.7	2.6	3552.3	8.6	41,049.6
Method C	31,140.0	74.3	1947.4	4.6	2093.6	5.0	989.8	2.4	1105.8	2.6	1056.1	2.5	3594.8	8.6	41,927.5
1980: Method A	30,420.1	72.8	2098.9	5.0	2059.6	4.9	1003.6	2.4	1198.2	2.9	1307.3	3.1	3725.4	8.9	41,813.1
Method B	32,239.2	72.7	2214.3	5.0	2279.5	5.1	1060.5	2.4	1324.0	3.0	1345.0	3.0	3895.0	8.8	44,357.5
Method C	33,120.2	72.8	2244.5	4.9	2343.1	5.2	1072.1	2.3	1397.8	3.1	1359.4	3.0	3942.9	8.7	45,480.0

2. Administration: (tables 3 - 7)

Three occupations were investigated in this group: Health care and services administrator, nursing home administrator, and hospital administrator. However, these categories are artificial and based more on differences in the location of employment than job descriptions. Personnel in these three categories may have similar backgrounds, including formal education, and could possibly move freely from one category to another.

This is further complicated by the wide variety of educational programs for health care and services administrators and the resulting variations in background and qualification of those reported in this category. These personnel may be employed as either the administrator of an NHC or HMO, with an equivalent background to a hospital administrator, an M.P.H., etc., or in some lower level of management within a hospital or other facility, with an associate or baccalaureate degree.

The data presented here support this situation. Hospital and nursing home administrators are reported almost exclusively in their respective facilities with health service and care administrators reported by ten different types of facilities.

The turnover and vacancy rates show very stable employment for both hospital and nursing home administrators. Also, the projections indicate very little change in the employment of these occupations, as would be expected in a situation where number employed is more directly proportional to the number of facilities than the sizes of the facilities. Any significant change in the future probably would come from the opening of new facilities.

However, the health care and services administrator category, with its range of positions, demonstrates more flexibility. Some vacancies are reported and there is a projected increase in utilization of these personnel of 16 to 19% by 1980. This is probably an indication of the greater need for trained administrative personnel within health care facilities apart from the traditional administrator.

Further investigation would be needed to determine adequately the true current and future employment situation of the different categories in the administrative field. The arbitrary nature of these categories as reported here, should be considered when these data are reviewed.

EMPLOYMENT PATTERNS OF SELECTED HEALTH OCCUPATIONS IN CONNECTICUT - SEPTEMBER 1973

Table 3

ADMINISTRATION

	All Facilities Surveyed	All Hospitals			Extended Care Facilities		VNAs	Clinical Labs.	Industrial Infirmaries	State (excl. Hosp.)	Other Employers (Total)
		General and VA Hospitals	Psych. Hosp.	Chronic Disease Hosp.	Nursing Homes	Rest Homes					
Full-time Employees	468	143	20	7	237	4	-	-	3	4	50
% female full-time											
Part-time employees	38	0	1	0	37	0			0	0	0
% female part-time											
Total number employed	506	143	21	7	274	4			3	4	50
Number employed-FTE	487.1	143.0	20.6	7.4	255.4	3.6			3.4	4.0	49.7
Vacancies-FTE	7.7	1.0	1.0	0	0	0			3.5	0	2.2
Total Employment opportunities-FTE	494.8	144.0	21.6	7.4	255.4	3.6			6.9	4.0	51.9
Annual Turnover rate											
Employer Perceived Projections											
1975: Method A	500.2	146.0	24.6	8.4	253.9	3.6			3.4	4.0	56.3
Method B	527.6	145.7	51.6	8.4	252.8	3.6			3.4	4.0	58.1
Method C	527.8	145.7	51.6	8.4	252.4	3.6			3.4	4.0	58.7
1980: Method A	525.2	155.1	27.6	11.6	253.9	3.6			3.4	4.0	66.0
Method B	528.9	155.1	27.6	12.7	252.8	3.6			3.4	4.0	69.7
Method C	529.2	155.1	27.6	12.7	252.0	3.6			3.4	4.0	70.8

Table 3 (Cont'd.)

ADMINISTRATION

	Other Employers								All Hosp.	ECFs (Nursing & rest homes)	State (including State Hosp.)
	Dental Labs.	NHC & HMO	School Infirmaries	Group Practices	Phys. Therapy Groups	Vol. Health Orgs.	Local Health Depts.	Drug Clinics			
Full-time Employees	-	24	-	-	-	11	4	11	170	241	26
% female full-time											
Part-time employees		0				0	0	0	1	37	0
% female part-time											
Total number employed		24				11	4	11	171	278	26
Number employed-FTE		24.2				10.7	4.0	10.8	171.0	259.0	26.0
Vacancies-FTE		2.2				0	0	0	2.0	0	1.0
Total Employment opportunities-FTE		26.4				10.7	4.0	10.8	173.0	259.0	27.0
Annual Turnover rate											
Employer Perceived Projections											
1975: Method A		30.8				10.7	4.0	10.8	179.0	257.5	
Method B		32.6				10.7	4.0	10.8	205.7	256.4	
Method C		33.2				10.7	4.0	10.8	205.7	256.0	
1980: Method A		35.2				16.0	4.0	10.8	194.3	257.5	
Method B		38.9				16.0	4.0	10.8	195.4	256.4	
Method C		40.0				16.0	4.0	10.8	195.4	255.6	

EMPLOYMENT PATTERNS OF SELECTED HEALTH OCCUPATIONS IN CONNECTICUT - SEPTEMBER 1973

Table 4

Administration	Health Care and Services Administrator	%	Nursing Home Administrator	%	Hospital Administrator	%	Total
Full-time Employees	163	34.8	223	47.7	82	17.5	468
Part-time employees	4	10.5	33	86.9	1	2.6	38
Total number employed	167	33.0	256	50.6	83	16.4	506
Number employed-FTE	164.5	33.8	239.6	49.2	82.9	17.0	487.1
Vacancies-FTE	7.7	100	0	--	0	--	7.7
Total Employment opportunities-FTE	172.2	34.8	239.6	48.4	82.9	16.8	494.8
Employer Perceived Projections							
1975: Method A	180.1	36.0	238.1	47.6	82.0	16.4	500.2
Method B	208.9	39.6	237.0	44.9	81.7	15.5	527.6
Method C	209.5	39.7	236.6	44.8	81.7	15.5	527.8
1980: Method A	200.8	38.2	238.1	45.4	86.3	16.4	525.2
Method B	204.5	38.7	237.0	44.8	87.4	16.5	528.9
Method C	205.6	38.9	236.2	44.6	87.4	16.5	529.2

Hospital Administrator:

As can be expected, the majority of the hospital administrators were reported as employed in hospitals, some in NHC's and HMO's, and in state agencies. However, this can not be considered an accurate description of the employment of this occupation due to the overlap of various job titles with similar job descriptions.

Eighty-three hospital administrators were employed at the time of the survey, only one of whom worked part-time. The great majority, 89%, were male. The turnover rate, 5.4, was low compared to other occupations but a much higher rate 18.2 was observed in psychiatric hospitals. There were no vacancies for this occupation at the time of the survey.

The projections indicate a slight decrease, between 1 and 1.3 FTE, in the demand for this occupation by 1975, but a slight increase, between 3.3 and 4.4 FTE, over current employment opportunities by 1980. All of this increase was reported in chronic disease hospitals. It is apparent that the employment of this occupation will be relatively stable over the next few years.

Nursing Home Administrator:

This occupation was found exclusively in nursing and rest homes with one exception in general hospitals. A total of 256 were employed with roughly half of them female. Thirty-three of 256 worked part-time. As with hospital administrators, the annual turnover rate was low, at 4.3, and no vacancies were reported.

The projections were identical for both years, showing a slight decrease of 1.5 to 3.0 FTE from 1973 employment opportunities. This occupation also appears to be stable in its employment patterns.

Health Care and Services Administrator:

Health care and services administrators were reported in a greater variety of facilities than the preceding two categories, probably due to the less specific nature of its title. Of the 167 employed, 81 were employed in general and VA hospitals. NHC's, HMO's and nursing homes also employed a substantial number.

Only 4 of these 167 worked part-time. As with hospital administrators, the majority were male. There were 7.7 vacancies reported. Again, the turnover rate was low, 5.1.

Unlike the other two administrative categories though, the projections as perceived by the employer showed some increase. For 1975, an increase between 8 and 37 FTE's was projected. For 1980, an increase from 28 to 33 FTE's over the 1973 level was given. These data indicate a fairly significant increase in the utilization of this occupation in the surveyed facilities, especially in comparison to the other administrative occupations.

EMPLOYMENT PATTERNS OF SELECTED HEALTH OCCUPATIONS IN CONNECTICUT - SEPTEMBER 1973

Table 5

HOSPITAL ADMINISTRATOR	All Facilities Surveyed	All Hospitals			Extended Care Facilities		VNAs	Clinical Labs.	Industrial Infirmaries	State (excl. Hosp.)	Other Employers (Total)
		General and VA Hospitals	Psych. Hosp.	Chronic Disease Hosp.	Nursing Homes	Rest Homes					
Full-time Employees	82	61	10	7	-	-	-	-	-	2	2
% female full-time	10.1	13.1	0	0						0	0
Part-time employees	1	0	1	0						0	0
% female part-time	100	-	100	-						-	-
Total number employed	83	61	11	7						2	2
Number employed-FTE	83.0	61.0	10.4	7.4						2.0	2.2
Vacancies-FTE	0	0	0	0						0	0
Total Employment opportunities-FTE	83.0	61.0	10.4	7.4						2.0	2.2
Annual Turnover rate	5.7	5.0	18.2	0						0	0
Employer Perceived Projections											
1975: Method A	82.0	60.0	10.4	7.4						2.0	2.2
Method B	81.7	59.7	10.4	7.4						2.0	2.2
Method C	81.7	59.7	10.4	7.4						2.0	2.2
1980: Method A	86.3	61.1	10.4	10.6						2.0	2.2
Method B	87.4	61.1	10.4	11.7						2.0	2.2
Method C	87.4	61.1	10.4	11.7						2.0	2.2

Table 5 (Cont'd.)

HOSPITAL ADMINISTRATOR	Other Employers								All Hosp.	ECFs (Nursing & rest homes)	State (including State Hosp.)
	Dental Labs.	NHC & HMO	School Infirmaries	Group Practices	Phys. Therapy Groups	Vol. Health Orgs.	Local Health Depts.	Drug Clinics			
Full-time Employees	-	2	-	-	-	-	-	-	78	-	14
% female full-time		0									
Part-time employees		0							1		0
% female part-time		-									
Total number employed		2							79		14
Number employed-FTE		2.2							78.8		14.0
Vacancies-FTE		0							0		0
Total Employment opportunities-FTE		2.2							78.8		14.0
Annual Turnover rate		0									
Employer Perceived Projections											
1975: Method A		2.2							77.8		
Method B		2.2							77.5		
Method C		2.2							77.5		
1980: Method A		2.2							82.1		
Method B		2.2							83.2		
Method C		2.2							83.2		

EMPLOYMENT PATTERNS OF SELECTED HEALTH OCCUPATIONS IN CONNECTICUT - SEPTEMBER 1973

Table 6

NURSING HOME ADMINISTRATOR

		All Hospitals			Extended Care Facilities						
	All Facilities Surveyed	General and VA Hospitals	Psych. Hosp.	Chronic Disease Hosp.	Nursing Homes	Rest Homes	VNAs	Clinical Labs.	Industrial Infirmaries	State (excl. Hosp.)	Other Employers (Total)
Full-time Employees	223	1	-	-	218	4	-	-	-	-	-
% female full-time	40.6	100			40.3	0					
Part-time employees	33	0			33	0					
% female part-time	55.5	-			55.5	-					
Total number employed	256	1			251	4					
Number employed-FTE	239.6	1.0			235.0	3.6					
Vacancies-FTE	0	0			0	0					
Total Employment opportunities-FTE	239.6	1.0			235.0	3.6					
Annual Turnover rate	4.3	0			4.3	0					
Employer Perceived Projections											
1975: Method A	238.1	1.0			233.5	3.6					
Method B	237.0	1.0			232.4	3.6					
Method C	236.6	1.0			232.0	3.6					
1980: Method A	238.1	1.0			233.5	3.6					
Method B	237.0	1.0			232.4	3.6					
Method C	236.2	1.0			231.6	3.6					

Table 6 (Cont'd.)

NURSING HOME ADMINISTRATOR

	Other Employers								All Hosp.	ECFs (Nursing & rest homes)	State (including State Hosp.)
	Dental Labs.	NHC & HMO	School Infirmaries	Group Practices	Phys. Therapy Groups	Vol. Health Orgs.	Local Health Depts.	Drug Clinics			
Full-time Employees	-	-	-	-	-	-	-	-	1	222	-
% female full-time											
Part-time employees									0	33	
% female part-time											
Total number employed									1	255	
Number employed-FTE									1.0	238.6	
Vacancies-FTE									0	0	
Total Employment opportunities-FTE									1.0	238.6	
Annual Turnover rate											
Employer Perceived Projections											
1975: Method A									1.0	237.1	
Method B									1.0	236.0	
Method C									1.0	235.6	
1980: Method A									1.0	237.1	
Method B									1.0	236.0	
Method C									1.0	235.2	

Table 7

HEALTH CARE AND SERVICES ADMINISTRATOR

		All Hospitals			Extended Care Facilities						
	All Facilities Surveyed	General and VA Hospitals	Psych. Hosp.	Chronic Disease Hosp.	Nursing Homes	Rest Homes	VNAs	Clinical Labs.	Industrial Infirmaries	State (excl. Hosp.)	Other Employers (Total)
Full-time Employees	163	81	10	0	19	-	-	-	3	2	48
% female full-time	29.8	25.9	40		80						
Part-time employees	4	0	0	0	4				0	0	0
% female part-time	0	-	-		0				-	-	-
Total number employed	167	81	10		23				3	2	48
Number employed-FTE	164.5	81.0	10.2	0	20.4				3.4	2.0	47.5
Vacancies-FTE	7.7	1.0	1.0	0	0				3.5	0	2.2
Total Employment opportunities-FTE	172.2	82.0	11.2	0	20.4				6.9	2.0	49.7
Annual Turnover rate	5.1	5.3	0	0	0				0	0	
Employer Perceived Projections											
1975: Method A	180.1	85.0	14.2	1.0	20.4				3.4	2.0	54.1
Method B	208.9	85.0	41.2	1.0	20.4				3.4	2.0	55.9
Method C	209.5	85.0	41.2	1.0	20.4				3.4	2.0	56.5
1980: Method A	200.8	93.0	17.2	1.0	20.4				3.4	2.0	63.8
Method B	204.5	93.0	17.2	1.0	20.4				3.4	2.0	67.5
Method C	205.6	93.0	17.2	1.0	20.4				3.4	2.0	68.6

Table 7 (Cont'd.)

HEALTH CARE AND SERVICES ADMINISTRATOR	Other Employers								All Hosp.	ECFs (Nursing & rest homes)	State (including State Hosp.)
	Dental Labs.	NHC & HMO	School Infirmaries	Group Practices	Phys. Therapy Groups	Vol. Health Orgs.	Local Health Depts.	Drug Clinics			
Full-time Employees	-	22	-	-	-	11	4	11	91	19	12
% female full-time		20				50	0	50	33.0		
Part-time employees		0				0	0	0	0	4	0
% female part-time		-				-	-	-	-		
Total number employed		22				11	4	11	91	23	12
Number employed-FTE		22.0				10.7	4.0	10.8	91.2	20.4	12.0
Vacancies-FTE		2.2				0	0	0	2.0	0	1.0
Total Employment opportunities-FTE		24.2				10.7	4.0	10.8	93.2	20.4	13.0
Annual Turnover rate		11.1				0	0	0			
Employer Perceived Projections											
1975: Method A		28.6				10.7	4.0	10.8	100.2	20.4	
Method B		30.4				10.7	4.0	10.8	127.2	20.4	
Method C		31.0				10.7	4.0	10.8	127.2	20.4	
1980: Method A		33.0				16.0	4.0	10.8	111.2	20.4	
Method B		36.7				16.0	4.0	10.8	111.2	20.4	
Method C		37.8				16.0	4.0	10.8	111.2	20.4	

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3. Dental: (tables 8 - 16)

Information was requested from the surveyed facilities on three occupations in this field: dental hygienist, dental assistant, and dental laboratory technician. It must be stressed that some of the numbers shown here are much lower than expected due to the omission of those employed in private offices. Information on licensed dental hygienists has been included in the discussion of that occupation, however, similar information was not available for dental assistant. In the opposite extreme, the data reported for dental lab technicians may be considered as not only complete, as they are employed primarily in facilities, but possibly too high due to the problem in extrapolation described in the methodology section.

There were a total of 859 people employed in this field in facilities at the time of the survey, representing 824.4 FTE's. Forty-seven vacancies were reported showing a slightly higher than average vacancy rate of 5.4%.

The employers' projections reveal a substantial increase in the utilization of these personnel ranging from 19% to 21% for 1975 and 50% to 56% over current employment opportunities by 1980. Dental lab technicians appear to responsible for much of this increase. They were the largest group employed in facilities in this field, representing 72% of the total number of FTE employment opportunities (see table 9). Dental hygienists are next with 20% while dental assistants are the smallest group. A large majority of the vacancies reported in this field, 85%, were also for these technicians.

The projections show that, while the employers plan to increase utilization of all of these occupations in the future, dental lab technicians demonstrate a higher rate of increase than the other occupations, to approximately 76% of all those in the field in 1980. It is apparent that they will continue to dominate employment in this field in these facilities.

EMPLOYMENT PATTERNS OF SELECTED HEALTH OCCUPATIONS IN CONNECTICUT - SEPTEMBER 1973

Table 8

Dental

	All Facilities Surveyed	All Hospitals			Extended Care Facilities		VNAs	Clinical Labs.	Industrial Infirmaries	State (excl. Hosp.)	Other Employers (Total)
		General and VA Hospitals	Psych. Hosp.	Chronic Disease Hosp.	Nursing Homes	Rest Homes					
Full-time Employees	788	58	6	2	0	0	0	6	13	5	608
% female full-time											
Part-time employees	71	1	1	0	4	4	2	0	0	0	59
% female part-time											
Total number employed	859	59	7	2	4	4	2	6	13	95	667
Number employed-FTE	824.4	58.5	6.7	2.1	1.9	1.8	.8	6.0	13.7	95.0	637.9
Vacancies-FTE	47.0	4.1	0	0	0	0	0	0	0	1.0	41.9
Total Employment opportunities-FTE	871.4	62.6	6.7	2.1	1.9	1.8	.8	6.0	13.7	96.0	679.8
Annual Turnover rate											
Employer Perceived Projections											
1975: Method A	1,036.3	80.0	6.2	5.1	7.4	1.8	3.2	6.0	13.7	96.0	816.9
Method B	1,049.7	80.6	6.2	5.1	7.4	1.8	3.2	6.0	13.7	96.0	829.7
Method C	1,056.1	82.6	6.2	5.1	7.4	1.8	3.2	6.0	13.7	96.0	834.1
1980: Method A	1,307.3	108.0	6.2	5.1	7.4	1.8	4.7	6.0	20.6	96.0	1,051.5
Method B	1,345.0	110.4	6.2	5.1	7.4	1.8	4.7	6.0	20.6	96.0	1,086.8
Method C	1,359.4	112.4	6.2	5.1	7.4	1.8	4.7	6.0	20.6	96.0	1,099.2

Table 8 (Cont'd.) Dental	Other Employers											
	Dental Labs.	NHC & HMO	School Infirmaries	Group Practices	Phys. Therapy Groups	Vol. Health Orgs.	Local Health Depts.	Drug Clinics	All Hosp.	ECFs (Nursing & rest homes)	State (including State Hosp.)
Full-time Employees	553	11	----	---	---	---	44	---	66	0	133
% female full-time											
Part-time employees	45	6					8		2	8	1
% female part-time											
Total number employed	598	17					52		68	8	134
Number employed-FTE	575.6	14.3					48.0		67.3	3.7	133.5
Vacancies-FTE	39.7	2.2					0		4.1	0	4.0
Total Employment opportunities-FTE	615.3	16.5					48.0		71.4	3.7	137.5
Annual Turnover rate											
Employer Perceived Projections											
1975: Method A	742.5	26.4					48.0		91.3	9.2	
Method B	755.3	26.4					48.0		91.9	9.2	
Method C	759.7	26.4					48.0		93.9	9.2	
1980: Method A	968.3	35.2					48.0		119.3	9.2	
Method B	1,003.6	35.2					48.0		121.7	9.2	
Method C	1,016.0	35.2					48.0		123.7	9.2	

EMPLOYMENT PATTERNS OF SELECTED HEALTH OCCUPATIONS IN CONNECTICUT - SEPTEMBER 1973

Table 9

Dental

	Dental Hygienist	%	Dental Assistant	%	Dental Laboratory Technician	%	Total
Full-time Employees	165	20.9	61	7.8	562	71.3	788
Part-time employees	16	22.5	10	14.1	45	63.4	71
Total number employed	181	21.1	71	8.3	607	70.6	859
Number employed-FTE	173.6	21.1	66.2	8.0	584.6	70.9	824.4
Vacancies-FTE	1.0	2.1	6.3	13.4	39.7	84.5	47.0
Total Employment opportunities-FTE	174.6	20.0	72.5	8.3	624.3	71.7	871.4
Employer Perceived Projections							
1975: Method A	193.9	18.7	84.7	8.2	757.7	73.1	1036.3
Method B	193.9	18.5	85.3	8.1	770.5	73.4	1049.7
Method C	193.9	18.4	85.3	8.1	776.9	73.5	1056.1
1980: Method A	208.5	15.9	112.3	8.6	986.5	75.5	1307.3
Method B	208.5	15.5	114.7	8.5	1021.8	76.0	1345.0
Method C	208.5	15.4	114.7	8.4	1036.2	76.2	1359.4

Dental Hygienist:

The employers were requested to provide information on dental hygienists by the type of degree held (A.S. or B.S.). However, as a large number of employers did not have this information, a third category for dental hygienists was created for those cases when the degree was unspecified. Tables for each of these three categories are presented here as well as summary tables for all dental hygienists.

One hundred eighty-one dental hygienists were reported employed in facilities at the time of the survey. Of these, 91% worked full-time. All full-time and part-time workers were female.

Slightly over half of these dental hygienists worked for the state in the public school systems. Local health departments were also a large employer. The remainder was scattered throughout most of the other types of facilities.

There was only one vacancy reported. The turnover rate for all three categories combined is roughly 7.5.

The projections show increases of 11% for 1975 and 19% for 1980, approximately the same as that exhibited for all occupations combined.

In 1973, 878 dental hygienists held active licenses in Connecticut. As no fee is required for an active license, it is unlikely that dental hygienists with no intention of practicing in Connecticut during the year, e.g., those residing permanently out-of-state would retain an active license. Therefore, it is safe to assume that the large majority of those with active licenses intend to work in their profession at some tim during the year. It is estimated* that approximately 85% of the dental hygienists with an active license are in practice at any given time. This would yield 746 dental hygienists actively practicing in Connecticut. Therefore, assuming that data collected in the survey are accurate, approximately one quarter of all actively practicing dental hygienists are employed in the surveyed facilities. The remaining three quarters are employed in private dentists' offices and possibly in some additional unsurveyed settings.

* Note: This estimation is based on personal communication with Mary E. Bayers, Chief, Licensure and Registration.

EMPLOYMENT PATTERNS OF SELECTED HEALTH OCCUPATIONS IN CONNECTICUT - SEPTEMBER 1973

Table 10

Dental Hygienist (Total)

	All Facilities Surveyed	All Hospitals			Extended Care Facilities		VNAs	Clinical Labs.	Industrial Infirmaries	State (excl. Hosp.)	Other Employers (Total)
		General and VA Hospitals	Psych. Hosp.	Chronic Disease Hosp.	Nursing Homes	Rest Homes					
Full-time Employees	165	8	0	0	0	0	0	3	13	95	46
% female full-time											
Part-time employees	16	1	1	0	4	4	2	0	0	0	4
% female part-time											
Total number employed	181	9	1	0	4	4	2	3	13	95	50
Number employed-FTE	173.6	8.5	.5	0	1.9	1.8	.8	3.0	13.7	95.0	48.4
Vacancies-FTE	1.0	0	0	0	0	0	0	0	0	1.0	0
Total Employment opportunities-FTE	174.6	8.5	.5	0	1.9	1.8	.8	3.0	13.7	96.0	48.4
Annual Turnover rate											
Employer Perceived Projections											
1975: Method A	193.9	14.0	0	2.0	7.4	1.8	3.2	3.0	13.7	96.0	52.8
Method B	193.9	14.0	0	2.0	7.4	1.8	3.2	3.0	13.7	96.0	52.8
Method C	193.9	14.0	0	2.0	7.4	1.8	3.2	3.0	13.7	96.0	52.8
1980: Method A	208.5	18.0	0	2.0	7.4	1.8	4.7	3.0	20.6	96.0	55.0
Method B	208.5	18.0	0	2.0	7.4	1.8	4.7	3.0	20.6	96.0	55.0
Method C	208.5	18.0	0	2.0	7.4	1.8	4.7	3.0	20.6	96.0	55.0

Table 10 (Cont'd.)

Dental Hygienist (total)

	Other Employers								All Hosp.	ECFs (Nursing & rest homes)	State (including State Hosp.)
	Dental Labs.	NHC & HMO	School Infirmaries	Group Practices	Phys. Therapy Groups	Vol. Health Orgs.	Local Health Depts.	Drug Clinics			
Full-time Employees	---	2	---	---	---	---	44	---	8	0	96
% female full-time											
Part-time employees		4					0		2	8	1
% female part-time											
Total number employed		6					44		10	8	97
Number employed-FTE		4.4					44.0		9.0	3.7	96.5
Vacancies-FTE		0					0		0	0	1.0
Total Employment opportunities-FTE		4.4					44.0		9.0	3.7	97.5
Annual Turnover rate											
Employer Perceived Projections											
1975: Method A		8.8					44.0		16.0	9.2	
Method B		8.8					44.0		16.0	9.2	
Method C		8.8					44.0		16.0	9.2	
1980: Method A		11.0					44.0		20.0	9.2	
Method B		11.0					44.0		20.0	9.2	
Method C		11.0					44.0		20.0	9.2	

EMPLOYMENT PATTERNS OF SELECTED HEALTH OCCUPATIONS IN CONNECTICUT - SEPTEMBER 1973

Table 11

Dental Hygienist	B.S.	%	A.S.	%	Degree Unspecified	%	Total
Full-time Employees	8	4.9	3	1.8	154	93.3	165
Part-time employees	1	6.2	5	31.3	10	62.5	16
Total number employed	9	5.0	8	4.4	164	90.6	181
Number employed-FTE	9.1	5.2	5.4	3.1	159.1	91.7	173.6
Vacancies-FTE	0	-	0	-	1.0	100	1.0
Total Employment opportunities-FTE	9.1	5.2	5.4	3.1	160.1	91.7	174.6
Employer Perceived Projections							
1975: Method A	15.5	8.0	13.7	7.1	164.7	84.9	193.9
Method B	15.5	8.0	13.7	7.1	164.7	84.9	193.9
Method C	15.5	8.0	13.7	7.1	164.7	84.9	193.9
1980: Method A	19.7	9.5	15.7	7.5	173.1	83.0	208.5
Method B	19.7	9.5	15.7	7.5	173.1	83.0	208.5
Method C	19.7	9.5	15.7	7.5	173.1	83.0	208.5

EMPLOYMENT PATTERNS OF SELECTED HEALTH OCCUPATIONS IN CONNECTICUT - SEPTEMBER 1973

Table 12

Dental Hygienist, A.S. Degree

	All Facilities Surveyed	All Hospitals			Extended Care Facilities		VNAs	Clinical Labs.	Industrial Infirmaries	State (excl. Hosp.)	Other Employers (Total)
		General and VA Hospitals	Psych. Hosp.	Chronic Disease Hosp.	Nursing Homes	Rest Homes					
Full-time Employees	3	3	---	0	0	---	---	---	---	---	---
% female full-time	100	100									
Part-time employees	5	1		0	4						
% female part-time	100	100			100						
Total number employed	8	4		0	4						
Number employed-FTE	5.4	3.5		0	1.9						
Vacancies-FTE	0	0		0	0						
Total Employment opportunities-FTE	5.4	3.5		0	1.9						
Annual Turnover rate	37.5	42.8		0	0						
Employer Perceived Projections											
1975: Method A	13.7	9.0		1.0	3.7						
Method B	13.7	9.0		1.0	3.7						
Method C	13.7	9.0		1.0	3.7						
1980: Method A	15.7	11.0		1.0	3.7						
Method B	15.7	11.0		1.0	3.7						
Method C	15.7	11.0		1.0	3.7						

Table 12 (Cont'd.)

Dental Hygienist, A.S. Degree

	Other Employers								All Hosp.	ECFs (Nursing & rest homes)	State (including State Hosp.)
	Dental Labs.	NHC & HMO	School Infirmaries	Group Practices	Phys. Therapy Groups	Vol. Health Orgs.	Local Health Depts.	Drug Clinics			
Full-time Employees	----	----	----	----	----	-----	----	----	3	0	1
% female full-time											
Part-time employees									1	4	0
% female part-time											
Total number employed									4	4	1
Number employed-FTE									3.5	1.9	1.0
Vacancies-FTE									0	0	0
Total Employment opportunities-FTE									3.5	1.9	1.0
Annual Turnover rate											
Employer Perceived Projections											
1975: Method A									10.0	3.7	
Method B									10.0	3.7	
Method C									10.0	3.7	
1980: Method A									12.0	3.7	
Method B									12.0	3.7	
Method C									12.0	3.7	

Table 13

Dental Hygienist, B.S. Degree

	All Facilities Surveyed	All Hospitals			Extended Care Facilities		VNAs	Clinical Labs.	Industrial Infirmaries	State (excl. Hosp.)	Other Employers (Total)
		General and VA Hospitals	Psych. Hosp.	Chronic Disease Hosp.	Nursing Homes	Rest Homes					
Full-time Employees	8	3	0	0	0	---	---	---	3	---	2
% female full-time	100	100	---						100		100
Part-time employees	1	0	1	0	0				0		0
% female part-time	100	---	100						---		---
Total number employed	9	3	1	0	0				3		2
Number employed-FTE	9.1	3.0	.5	0	0				3.4		2.2
Vacancies-FTE	0	0	0	0	0				0		0
Total Employment opportunities-FTE	9.1	3.0	.5	0	0				3.4		2.2
Annual Turnover rate	0	0	0	0	0				0		
Employer Perceived Projections											
1975: Method A	15.5	3.0	0	1.0	3.7				3.4		4.4
Method B	15.5	3.0	0	1.0	3.7				3.4		4.4
Method C	15.5	3.0	0	1.0	3.7				3.4		4.4
1980: Method A	19.7	5.0	0	1.0	3.7				3.4		6.6
Method B	19.7	5.0	0	1.0	3.7				3.4		6.6
Method C	19.7	5.0	0	1.0	3.7				3.4		6.6

Table 13 (Cont'd.)

Dental Hygienist, B.S. Degree

	Other Employers										
	Dental Labs.	NHC & HMO	School Infirmaries	Group Practices	Phys. Therapy Groups	Vol. Health Orgs.	Local Health Depts.	Drug Clinics	All Hosp.	ECFs (Nursing & rest homes)	State (including State Hosp.)
Full-time Employees	---	2	---	---	---	---	---	---	3	0	0
% female full-time		100									
Part-time employees		0							1	0	1
% female part-time		---									
Total number employed		2							4	0	1
Number employed-FTE		2.2							3.5	0	.5
Vacancies-FTE		0							0	0	0
Total Employment opportunities-FTE		2.2							3.5	0	.5
Annual Turnover rate		0									
Employer Perceived Projections											
1975: Method A		4.4							4.0	3.7	
Method B		4.4							4.0	3.7	
Method C		4.4							4.0	3.7	
1980: Method A		6.6							6.0	3.7	
Method B		6.6							6.0	3.7	
Method C		6.6							6.0	3.7	

EMPLOYMENT PATTERNS OF SELECTED HEALTH OCCUPATIONS IN CONNECTICUT - SEPTEMBER 1973

Table 14

Dental Hygienist
Degree unspecified

	All Facilities Surveyed	All Hospitals			Extended Care Facilities		VNAs	Clinical Labs.	Industrial Infirmaries	State (excl. Hosp.)	Other Employers (Total)
		General and VA Hospitals	Psych. Hosp.	Chronic Disease Hosp.	Nursing Homes	Rest Homes					
Full-time Employees	154	2	---	---	---	0	0	3	10	95	44
% female full-time	100	100				---	---	100	100	100	100
Part-time employees	10	0				4	2	0	0	0	4
% female part-time	100	---				100	100	---	---	---	100
Total number employed	164	2				4	2	3	10	95	48
Number employed-FTE	159.1	2.0				1.8	.8	3.0	10.3	95.0	46.2
Vacancies-FTE	1.0	0				0	0	0	0	1.0	0
Total Employment opportunities-FTE	160.1	2.0				1.8	.8	3.0	10.3	96.0	46.2
Annual Turnover rate	7.4	0				0	0	0	0	0	
Employer Perceived Projections											
1975: Method A	164.7	2.0				1.8	3.2	3.0	10.3	96.0	48.4
Method B	164.7	2.0				1.8	3.2	3.0	10.3	96.0	48.4
Method C	164.7	2.0				1.8	3.2	3.0	10.3	96.0	48.4
1980: Method A	173.1	2.0				1.8	4.7	3.0	17.2	96.0	48.4
Method B	173.1	2.0				1.8	4.7	3.0	17.2	96.0	48.4
Method C	173.1	2.0				1.8	4.7	3.0	17.2	96.0	48.4

Table 14 (Cont'd.) Dental Hygienist Degree unspecified	Other Employers								All Hosp.	ECFs (Nursing & rest homes)	State (including State Hosp.)
	Dental Labs.	NHC & HMO	School Infirmaries	Group Practices	Phys. Therapy Groups	Vol. Health Orgs.	Local Health Depts.	Drug Clinics			
Full-time Employees	---	0	---	---	---	---	44	---	2	0	95
% female full-time		---					100				
Part-time employees		4					0		0	4	0
% female part-time		100					---				
Total number employed		4					44		2	4	95
Number employed-FTE		2.2					44.0		2.0	1.8	95.0
Vacancies-FTE		0					0		0	0	1.0
Total Employment opportunities-FTE		2.2					44.0		2.0	1.8	96.0
Annual Turnover rate		100					0				
Employer Perceived Projections											
1975: Method A		4.4					44.0		2.0	1.8	
Method B		4.4					44.0		2.0	1.8	
Method C		4.4					44.0		2.0	1.8	
1980: Method A		4.4					44.0		2.0	1.8	
Method B		4.4					44.0		2.0	1.8	
Method C		4.4					44.0		2.0	1.8	

Dental Assistant:

Seventy-one dental assistants were reported employed in facilities. The majority of these, roughly 60%, were employed in general and VA hospitals. Employment opportunities were also available in psychiatric and chronic disease hospitals, clinical labs, NHC's and HMO's, and local health departments.

A relatively high vacancy rate of 8.7% was reported. The turnover rate was 17.4.

The projections as perceived by the employer indicate a large increase in utilization of this occupation: Between 17% and 18% for 1975, and 55% and 58% of current employment opportunities for 1980. General hospitals and NHC's-HMO's indicated the largest increase with the other facilities remaining close to their current level of employment.

Dental Laboratory Technicians:

Of the 607 dental lab technicians employed in surveyed facilities, all but nine were employed in dental labs. Those nine found employment in either general hospitals or chronic disease hospitals.

Of the total number, 93% worked full-time. Only 28% of the full-time workers were female, while the rate for part-time workers was 71%.

There were 39.7 vacancies, or a higher than average rate of 6.4%. The annual turnover rate was close to the average exhibited by all occupations surveyed at 21.9.

The projections as perceived by the employer showed a large increase: 21% to 24% for 1975 and 58% to 66% between 1973 and 1980. Employment in hospitals is projected to double, but, as this amounts to only 17 FTE, the dental laboratories account for most of the change.

EMPLOYMENT PATTERNS OF SELECTED HEALTH OCCUPATIONS IN CONNECTICUT - SEPTEMBER 1973

Table 15

Dental Assistant

	All Facilities Surveyed	All Hospitals			Extended Care Facilities		VNAs	Clinical Labs.	Industrial Infirmaries	State (excl. Hosp.)	Other Employers (Total)
		General and VA Hospitals	Psych. Hosp.	Chronic Disease Hosp.	Nursing Homes	Rest Homes					
Full-time Employees	61	42	6	1	---	---	--	3	---	---	9
% female full-time	98.1	97.6	100	100				100			100
Part-time employees	10	0	0	0				0			10
% female part-time	100	---	---	---				---			100
Total number employed	71	42	6	1				3			19
Number employed-FTE	66.2	42.0	6.2	1.1				3.0			13.9
Vacancies-FTE	6.3	4.1	0	0				0			2.2
Total Employment opportunities-FTE	72.5	46.1	6.2	1.1				3.0			16.1
Annual Turnover rate	17.4	16.5	0	0				100			
Employer Perceived Projections											
1975: Method A	84.7	54.0	6.2	2.1				3.0			19.4
Method B	85.3	54.6	6.2	2.1				3.0			19.4
Method C	85.3	54.6	6.2	2.1				3.0			19.4
1980: Method A	112.3	75.0	6.2	2.1				3.0			26.0
Method B	114.7	77.4	6.2	2.1				3.0			26.0
Method C	114.7	77.4	6.2	2.1				3.0			26.0

Table 15 (Cont'd.)

Dental Assistant

	Other Employers										
	Dental Labs.	NHC & HMO	School Infirmaries	Group Practices	Phys. Therapy Groups	Vol. Health Orgs.	Local Health Depts.	Drug Clinics	All Hosp.	ECFs (Nursing & rest homes)	State (including State Hosp.)
Full-time Employees	---	9	---	---	---	---	0	---	49	---	32
% female full-time		100					---				
Part-time employees		2					8		0		0
% female part-time		100					100				
Total number employed		11					8		49		32
Number employed-FTE		9.9					4.0		49.3		32.0
Vacancies-FTE		2.2					0		4.1		3.0
Total Employment opportunities-FTE		12.1					4.0		53.4		35.0
Annual Turnover rate		0					0				
Employer Perceived Projections											
1975: Method A		15.4					4.0		62.3		
Method B		15.4					4.0		62.9		
Method C		15.4					4.0		62.9		
1980: Method A		22.0					4.0		83.3		
Method B		22.0					4.0		85.7		
Method C		22.0					4.0		85.7		

EMPLOYMENT PATTERNS OF SELECTED HEALTH OCCUPATIONS IN CONNECTICUT - SEPTEMBER 1973

Table 16

Dental Laboratory Technician

	All Facilities Surveyed	All Hospitals			Extended Care Facilities		VNAs	Clinical Labs.	Industrial Infirmaries	State (excl. Hosp.)	Other Employers (Total)
		General and VA Hospitals	Psych. Hosp.	Chronic Disease Hosp.	Nursing Homes	Rest Homes					
Full-time Employees	562	8	---	1	---	---	---	---	---	---	553
% female full-time	28.0	12.5		0							28.9
Part-time employees	45	0		0							45
% female part-time	71.4	---		---							71.4
Total number employed	607	8		1							598
Number employed-FTE	584.6	8.0		1.0							575.6
Vacancies-FTE	39.7	0		0							39.7
Total Employment opportunities-FTE	624.3	8.0		1.0							615.3
Annual Turnover rate	21.9	12.5		0							
Employer Perceived Projections											
1975: Method A	757.7	12.0		1.0							744.7
Method B	770.5	12.0		1.0							757.5
Method C	776.9	14.0		1.0							761.9
1980: Method A	986.5	15.0		1.0							970.5
Method B	1,021.8	15.0		1.0							1,005.8
Method C	1,036.2	17.0		1.0							1,018.2

Table 16 (Cont'd.)

Dental Laboratory Technician

	Other Employers										
	Dental Labs.	NHC & HMO	School Infirmaries	Group Practices	Phys. Therapy Groups	Vol. Health Orgs.	Local Health Depts.	Drug Clinics	All Hosp.	ECFs (Nursing & rest homes)	State (including State Hosp.)
Full-time Employees	553	0	---	---	---	---	---	---	9	---	5
% female full-time	28.9										
Part-time employees	45	0							0		0
% female part-time	71.4										
Total number employed	598	0							9		5
Number employed-FTE	575.6	0							9.0		5.0
Vacancies-FTE	39.7	0							0		0
Total Employment opportunities-FTE	615.3	0							9.0		5.0
Annual Turnover rate	22.8	0									
Employer Perceived Projections											
1975: Method A	742.5	2.2							13.0		
Method B	755.3	2.2							13.0		
Method C	759.7	2.2							15.0		
1980: Method A	968.3	2.2							16.0		
Method B	1,003.6	2.2							16.0		
Method C	1,016.0	2.2							18.0		

4. Dietitian: (table 17)

Three hundred seventy-eight dietitians were reported employed in the surveyed facilities. The majority of the employment opportunities for this occupation were found in hospitals and extended care facilities, but some were reported in NHC's and HMO's, local health departments, and school infirmaries.

Roughly half of the 378 were part-time workers. Nursing homes were the largest employer of part-time workers with a total of 167. It was indicated on questionnaires and interviews with nursing home administrators that some of these people work only a few hours a week at a particular institution on a contractual basis. As explained in the introduction and methodology section, this may distort the FTE's for employment opportunities in those cases where it was necessary to use the equation: 2 part-time workers = 1 FTE. Also, some of these people may be employed simultaneously by two or more institutions, and therefore would be counted more than once. The number employed and FTE employed in nursing homes as reported is therefore probably higher than in fact.

All of the 7.4 vacancies reported were in general and VA hospitals. The annual turnover rate was lower than the average for all occupations at 10.4. The highest turnover rate reported, 25.0, was in psychiatric hospitals, but due to the small number employed in these facilities, this can not be considered significant.

The projections as perceived by the employer showed an increase in utilization of these personnel slightly higher than that demonstrated by all occupations combined: Between 11% and 25% for 1975, and 12% and 29% between 1973 and 1980.

EMPLOYMENT PATTERNS OF SELECTED HEALTH OCCUPATIONS IN CONNECTICUT - SEPTEMBER 1973

Table 17

Dietitian

	All Facilities Surveyed	All Hospitals			Extended Care Facilities		VNAs	Clinical Labs.	Industrial Infirmaries	State (excl. Hosp.)	Other Employers (Total)
		General and VA Hospitals	Psych. Hosp.	Chronic Disease Hosp.	Nursing Homes	Rest Homes					
Full-time Employees	173	127	7	11	15	4	-	-	-		9
% female full-time	980	98.4	85.7	100	100	100					
Part-time employees	205	33	1	4	167	0					0
% female part-time	96.1	100	100	100	92.8	-					
Total number employed	378	160	8	15	182	4					9
Number employed-FTE	274.2	143.5	8.0	11.7	98.1	3.6					9.3
Vacancies-FTE	7.4	7.4	0	0	0	0					0
Total Employment opportunities-FTE	281.6	150.9	8.0	11.7	98.1	3.6					9.3
Annual Turnover rate	10.4	12.3	25.0	5.9	5.4	0					
Employer Perceived Projections											
1975: Method A	322.4	158.9	7.0	12.2	131.4	3.6					9.3
Method B	335.1	162.8	7.0	12.2	140.2	3.6					9.3
Method C	351.9	162.9	7.0	12.2	156.9	3.6					9.3
1980: Method A	327.0	169.6	8.0	12.2	124.3	3.6					9.3
Method B	348.7	178.9	8.0	12.7	136.2	3.6					9.3
Method C	362.4	179.3	8.0	12.7	149.5	3.6					9.3

Table 17 (Cont'd.)

Dietitian

	Other Employers										
	Dental Labs.	NHC & HMO	School Infirmaries	Group Practices	Phys. Therapy Groups	Vol. Health Orgs.	Local Health Depts.	Drug Clinics	All Hosp.	ECFs (Nursing & rest homes)	State (including State Hosp.)
Full-time Employees	-	2	3	-	-	-	4	-	145	19	14
% female full-time		100	100				100				
Part-time employees		0	0				0		38	167	0
% female part-time		-	-				-				
Total number employed		2	3				4		183	186	14
Number employed-FTE		2.2	3.1				4.0		163.2	101.7	14.0
Vacancies-FTE		0	0				0		7.4	0	0
Total Employment opportunities-FTE		2.2	3.1				4.0		170.6	101.7	14.0
Annual Turnover rate		0	0				0				
Employer Perceived Projections											
1975: Method A		2.2	3.1				4.0		178.1	135.0	
Method B		2.2	3.1				4.0		182.0	143.8	
Method C		2.2	3.1				4.0		182.1	160.5	
1980: Method A		2.2	3.1				4.0		189.8	127.9	
Method B		2.2	3.1				4.0		199.6	139.8	
Method C		2.2	3.1				4.0		200.0	153.1	

5. Education: (tables 18-19)

Only two occupations in this field were investigated: Health educator, and teacher-special education. However, as the majority of these are employed in schools which were not surveyed, the data presented show only a small fraction of those currently employed.

Health Educator:

Seventy-two health educators were employed in the surveyed facilities. They were employed in a large number of settings including general hospitals, nursing homes, NHC's and HMO's, local health departments, drug clinics and state agencies.

Fifty-three of these 72 worked full-time, 19 part-time. Of the full-time workers, 70% were female while 92% of the part-time workers were female. There were no vacancies at the time of the survey. The annual turnover rate was 5.8.

The projections showed only moderate increases: 6% for 1975, 17% for 1980. Current consideration for reimbursement by Medicaid for patient's health education in the hospital may affect the numbers of health educators in the future.

Teacher, Special Education:

Some additional information on special education teachers in the public school system was received after the original data from the survey had been analyzed; this can now be added to give a more complete picture of employment in this field. Unfortunately, these data give only the current employment in FTE's and there is no indication of the actual numbers employed or the projected employment.

The facilities that responded to our questionnaire (excluding the public school system) reported that 80 special education teachers were currently employed, 65 full-time, 15 part-time. Again, a higher proportion, 80%, of the part-time workers were female, than the proportion of full-time workers, 55%.

A higher than average vacancy rate of 15.4% was reported. The annual turnover rate, 23.4, was close to that shown for all occupations surveyed.

The current number employed in FTE was 72.2. There were 1,787.2 FTE employed in the public schools making a total of 1,859.4 employed in all surveyed facilities and the public school system.

The projections from the surveyed facilities show a slight decrease in employment for 1975 and 1980 As was mentioned, no indication of the future employment in public schools was given.

EMPLOYMENT PATTERNS OF SELECTED HEALTH OCCUPATIONS IN CONNECTICUT - SEPTEMBER 1973

Table 18

HEALTH EDUCATOR

	All Facilities Surveyed	All Hospitals			Extended Care Facilities		VNAs	Clinical Labs.	Industrial Infirmaries	State (excl. Hosp.)	Other Employers (Total)
		General and VA Hospitals	Psych. Hosp.	Chronic Disease Hosp.	Nursing Homes	Rest Homes					
Full-time Employees	53	29	-	-	0	-	-	-	-	7	17
% female full-time	70.0	86.2			-					14.2	
Part-time employees	19	10			4					0	5
% female part-time	91.6	90			100					-	
Total number employed	72	39			4					7	22
Number employed-FTE	62.6	34.0			1.9					7.0	19.7
Vacancies-FTE	0	0			0					0	0
Total Employment opportunities-FTE	62.6	34.0			1.9					7.0	19.7
Annual Turnover rate	5.8	4.5			0					14.2	
Employer Perceived Projections											
1975: Method A	66.3	26.0			7.4					7.0	25.9
Method B	66.0	25.7			7.4					7.0	25.9
Method C	66.0	25.7			7.4					7.0	25.9
1980: Method A	73.3	29.0			7.4					7.0	29.9
Method B	73.1	28.8			7.4					7.0	29.9
Method C	73.1	28.8			7.4					7.0	29.9

Table 18 (Cont'd.)

HEALTH EDUCATOR

	Other Employers								All Hosp.	ECFs (Nursing & rest homes)	State (including State Hosp.)
	Dental Labs.	NHC & HMO	School Infirmaries	Group Practices	Phys. Therapy Groups	Vol. Health Orgs.	Local Health Depts.	Drug Clinics			
Full-time Employees	-	2	-	-	-	-	4	11	29	0	7
% female full-time		100					0	50.0			
Part-time employees		0					0	5	10	4	0
% female part-time		-					-	100			
Total number employed		2					4	16	39	4	7
Number employed-FTE		2.2					4.0	13.5	34.0	1.9	7.0
Vacancies-FTE		0					0	0	0	0	0
Total Employment opportunities-FTE		2.2					4.0	13.5	34.0	1.9	7.0
Annual Turnover rate		0					0	0			
Employer Perceived Projections											
1975: Method A		4.4					8.0	13.5	26.0	7.4	
Method B		4.4					8.0	13.5	25.7	7.4	
Method C		4.4					8.0	13.5	25.7	7.4	
1980: Method A		4.4					12.0	13.5	29.0	7.4	
Method B		4.4					12.0	13.5	28.8	7.4	
Method C		4.4					12.0	13.5	28.8	7.4	

EMPLOYMENT PATTERNS OF SELECTED HEALTH OCCUPATIONS IN CONNECTICUT - SEPTEMBER 1973

Table 19

TEACHER, SPECIAL EDUCATION

	All Facilities Surveyed	All Hospitals			Extended Care Facilities		VNAs	Clinical Labs.	Industrial Infirmaries	State (excl. Hosp.)	Other Employers (Total)
		General and VA Hospitals	Psych. Hosp.	Chronic Disease Hosp.	Nursing Homes	Rest Homes					
Full-time Employees	65	2	26	-	-	-	-	-	-	21	16
% female full-time	54.5	100	48.0							42.8	
Part-time employees	15	0	10							0	5
% female part-time	80.0	-	75.0							-	
Total number employed	80	2	36							21	21
Number employed-FTE	72.2*	2.0	30.7							21.0	18.5
Vacancies-FTE	13.1	0	2.5							4.0	6.6
Total Employment opportunities-FTE	85.3*	2.0	33.2							25.0	25.1
Annual Turnover rate	23.4	0	20.8							28.5	
Employer Perceived Projections											
1975: Method A	84.2*	4.0	29.9							23.0	27.3
Method B	82.5*	4.0	28.2							23.0	27.3
Method C	82.5*	4.0	28.2							23.0	27.3
1980: Method A	82.2*	4.0	29.9							21.0	27.3
Method B	77.3*	4.0	28.2							17.8	27.3
Method C	77.3*	4.0	28.2							17.8	27.3

* plus 1787.2 FTE employed currently in public schools

Table 19 (Cont'd.)

TEACHER, SPECIAL EDUCATION

	Other Employers										
	Dental Labs.	NHC & HMO	School Infirmaries	Group Practices	Phys. Therapy Groups	Vol. Health Orgs.	Local Health Depts.	Drug Clinics	All Hosp.	ECFs (Nursing & rest homes)	State (including State Hosp.)
Full-time Employees	-	13	-	-	-	3	-	-	28	-	41
% female full-time		100				100					
Part-time employees		0				5			10		0
% female part-time		-				100					
Total number employed		13				8			38		41
Number employed-FTE		13.2				5.3			32.7		41.0*
Vacancies-FTE		6.6				0			2.5		6.5
Total Employment opportunities-FTE		19.8				5.3			35.2		47.5*
Annual Turnover rate		0				25.0					
Employer Perceived Projections											
1975: Method A		22.0				5.3			33.9		
Method B		22.0				5.3			32.2		
Method C		22.0				5.3			32.2		
1980: Method A		22.0				5.3			33.9		
Method B		22.0				5.3			32.2		
Method C		22.0				5.3			32.2		

*plus 1787.2 FTE employed currently in public schools.

6. Environmental Health: (tables 20-24)

Two occupations were investigated in this section: Environmental health technologist and environmental health technician. Some questionnaires were returned, however, with information provided for "environmental health" and it was therefore necessary to make a third category, environmental health, unspecified.

A total of 287 people were reported employed in the field of environmental health in the surveyed facilities. Technologists represented the greatest proportion as 73% of all those employed. Nineteen percent were technicians, and eight percent were not specified by title.

The majority, 61%, of these people worked for the state. Twenty-eight percent worked in local health departments. The remainder worked in either general hospitals or clinical labs.

Only 12 of the 287 people were employed as part-time workers. This is consistant with the extremely low numbers of part-time workers observed in all the occupations employed by both the state (excluding state hospitals) and local health departments (see table 1).

The projections are conservative, showing only a 5.9% increase by 1975, and a 12% increase over current employment opportunities by 1980. These comparatively low figures could have been influenced by the reluctance of the state agencies to provide projections (the state showed no increase at all) and probably present a lower figure than can be reasonably expected. It appears from table 21 that by 1980 there may be a greater proportion of technicians employed than currently observed, while the proportion of technologists might decrease slightly. However, this picture may be distorted by the presence of the third, unspecified category.

EMPLOYMENT PATTERNS OF SELECTED HEALTH OCCUPATIONS IN CONNECTICUT - SEPTEMBER 1973

Table 20

ENVIRONMENTAL HEALTH

	All Facilities Surveyed	All Hospitals			Extended Care Facilities		VNAs	Clinical Labs.	Industrial Infirmaries	State (excl. Hosp.)	Other Employers (Total)
		General and VA Hospitals	Psych. Hosp.	Chronic Disease Hosp.	Nursing Homes	Rest Homes					
Full-time Employees	275	5	-	-	-	-	-	24	-	174	72
% female full-time											
Part-time Employees	12	0						3		1	8
% female part-time											
Total number employed	287	5						27		175	80
Number employed-FTE	281.1	5.0						25.6		174.5	76.0
Vacancies-FTE	0	0						0		0	0
Total Employment opportunities-FTE	281.1	5.0						25.6		174.5	76.0
Annual Turnover rate											
Employer Perceived Projections											
1975: Method A	297.7	5.0						30.2		174.5	88.0
Method B	297.7	5.0						30.2		174.5	88.0
Method C	297.7	5.0						30.2		174.5	88.0
1980: Method A	313.8	5.0						42.3		174.5	92.0
Method B	313.8	5.0						42.3		174.5	92.0
Method C	313.8	5.0						42.3		174.5	92.0

Table 20 (Cont'd.)

ENVIRONMENTAL HEALTH

	Other Employers								All Hosp.	ECFs (Nursing & rest homes)	State (including State Hosp.)
	Dental Labs.	NHC & HMO	School Infirmaries	Group Practices	Phys. Therapy Groups	Vol. Health Orgs.	Local Health Depts.	Drug Clinics			
Full-time Employees	-	-	-	-	-	-	72	-	5	-	175
% female full-time											
Part-time employees							8		0		1
% female part-time											
Total number employed							80		5		176
Number employed-FTE							76.0		5.0		175.5
Vacancies-FTE							0		0		0
Total Employment opportunities-FTE							76.0		5.0		175.5
Annual Turnover rate											
Employer Perceived Projections											
1975: Method A							88.0		5.0		
Method B							88.0		5.0		
Method C							88.0		5.0		
1980: Method A							92.0		5.0		
Method B							92.0		5.0		
Method C							92.0		5.0		

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EMPLOYMENT PATTERNS OF SELECTED HEALTH OCCUPATIONS IN CONNECTICUT - SEPTEMBER 1973

Table 21

Environmental Health	Env. Health Technologist	%	Env. Health Technician	%	Env. Health (Unspecified)	%	Total
Full-time Employees	197	71.6	54	19.6	24	8.8	275
Part-time employees	11	91.7	1	8.3	0	-	12
Total number employed	208	72.5	55	19.1	24	8.4	287
Number employed-FTE	202.5	72.1	54.6	19.4	24.0	8.5	281.1
Vacancies-FTE	0	-	0	-	0	-	0
Total Employment opportunities-FTE	202.5	72.1	54.6	19.4	24.0	8.5	281.1
Employer Perceived Projections							
1975: Method A	215.1	72.3	54.6	18.3	28.0	9.4	297.7
Method B	215.1	72.3	54.6	18.3	28.0	9.4	297.7
Method C	215.1	72.3	54.6	18.3	28.0	9.4	297.7
1980: Method A	222.1	70.8	63.7	20.3	28.0	8.9	313.8
Method B	222.1	70.8	63.7	20.3	28.0	8.9	313.8
Method C	222.1	70.8	63.7	20.3	28.0	8.9	313.8

Environmental Health Technologist:

Two hundred eight environmental health technologists were employed at the time of the survey. The majority, 68%, were employed by the state, 27% were employed in local health departments. The remainder were employed either in general hospitals or clinical labs.

Only 11 of these people worked part-time, 197 full-time. Only 3.1% of the full-time workers were female (this information was not available for part-time workers).

There were no vacancies reported and the turnover rate was zero. This latter rate was based on a very small sample as the majority of the facilities represented here could not provide these data. Therefore, this rate is probably inaccurate.

The projections as perceived by the employer showed small increases, 6% by 1975, 10% for 1980. As mentioned above, this low figure could be due to the reluctance of state agencies to provide projections.

Environmental Health Technician:

The number of technicians employed, 55, was approximately one-quarter the number of technologists.

Sixty-two percent were employed by the state, 38% by clinical labs. None of the other facilities surveyed indicated employment of this occupation.

All but one of these technicians worked full-time. None of the full-time workers were female, however, the one part-time worker was a female.

As with the technologists, there were no vacancies and the turnover rate was zero. Again, this rate was based on a very small sample.

The projections showed no increase for 1975 and a 16% increase by 1980. All of this increase is seen in the clinical labs, none in the state agencies.

Table 24 presents the data for the unspecified environmental health occupations.

EMPLOYMENT PATTERNS OF SELECTED HEALTH OCCUPATIONS IN CONNECTICUT - SEPTEMBER 1973

Table 22

ENVIRONMENTAL HEALTH TECHNOLOGIST

	All Facilities Surveyed	All Hospitals			Extended Care Facilities		VNAs	Clinical Labs.	Industrial Infirmaries	State (excl. Hosp.)	Other Employers (Total)
		General and VA Hospitals	Psych. Hosp.	Chronic Disease Hosp.	Nursing Homes	Rest Homes					
Full-time Employees	197	5	-	-	-	-	-	3	-	141	48
% female full-time	3.1	80						0		.7	0
Part-time employees	11	0						3		0	8
% female part-time	-	-						-		-	-
Total number employed	208	5						6		141	56
Number employed-FTE	202.5	5.0						4.5		141.0	52.0
Vacancies-FTE	0	0						0		0	0
Total Employment opportunities-FTE	202.5	5.0						4.5		141.0	52.0
Annual Turnover rate	0	0						0		0	0
Employer Perceived Projections											
1975: Method A	215.1	5.0						9.1		141. 0	60.0
Method B	215.1	5.0						9.1		141.0	60.0
Method C	215.1	5.0						9.1		141.0	60.0
1980: Method A	222.1	5.0						12.1		141.0	64.0
Method B	222.1	5.0						12.1		141.0	64.0
Method C	222.1	5.0						12.1		141.0	64.0

Table 22 (Cont'd.) ENVIRONMENTAL HEALTH TECHNOLOGIST	Other Employers								All Hosp.	ECFs (Nursing & rest homes)	State (including State Hosp.)
	Dental Labs.	NHC & HMO	School Infirmaries	Group Practices	Phys. Therapy Groups	Vol. Health Orgs.	Local Health Depts.	Drug Clinics			
Full-time Employees	-	-	-	-	-	-	48	-	5	-	142
% female full-time							0				
Part-time employees							8		0		0
% female part-time							-				
Total number employed							56		5		142
Number employed-FTE							52.0		5.0		142.0
Vacancies-FTE							0		0		0
Total Employment opportunities-FTE							52.0		5.0		142.0
Annual Turnover rate							0				
Employer Perceived Projections											
1975: Method A							60.0		5.0		
Method B							60.0		5.0		
Method C							60.0		5.0		
1980: Method A							64.0		5.0		
Method B							64.0		5.0		
Method C							64.0		5.0		

EMPLOYMENT PATTERNS OF SELECTED HEALTH OCCUPATIONS IN CONNECTICUT - SEPTEMBER 1973

Table 23

ENVIRONMENTAL HEALTH TECHNICIAN

	All Facilities Surveyed	All Hospitals			Extended Care Facilities		VNAs	Clinical Labs.	Industrial Infirmaries	State (excl. Hosp.)	Other Employers (Total)
		General and VA Hospitals	Psych. Hosp.	Chronic Disease Hosp.	Nursing Homes	Rest Homes					
Full-time Employees	54	-	-	-	-	-	-	21	-	33	-
% female full-time	0							0		0	
Part-time employees	1							0		1	
% female part-time	100							-		100	
Total number employed	55							21		34	
Number employed-FTE	54.6							21.1		33.5	
Vacancies-FTE	0							0		0	
Total Employment opportunities-FTE	54.6							21.1		33.5	
Annual Turnover rate	0							0			
Employer Perceived Projections											
1975: Method A	54.6							21.1		33.5	
Method B	54.6							21.1		33.5	
Method C	54.6							21.1		33.5	
1980: Method A	63.7							30.2		33.5	
Method B	63.7							30.2		33.5	
Method C	63.7							30.2		33.5	

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Table 23 (Cont'd.)

ENVIRONMENTAL HEALTH TECHNICIAN

	Other Employers								All Hosp.	ECFs (Nursing & rest homes)	State (including State Hosp.)
	Dental Labs.	NHC & HMO	School Infirmaries	Group Practices	Phys. Therapy Groups	Vol. Health Orgs.	Local Health Depts.	Drug Clinics			
Full-time Employees	-	-	-	-	-	-	-	-	-	-	33
% female full-time											
Part-time employees											1
% female part-time											
Total number employed											34
Number employed-FTE											33.5
Vacancies-FTE											0
Total Employment opportunities-FTE											33.5
Annual Turnover rate											
Employer Perceived Projections											
1975: Method A											
Method B											
Method C											
1980: Method A											
Method B											
Method C											

EMPLOYMENT PATTERNS OF SELECTED HEALTH OCCUPATIONS IN CONNECTICUT - SEPTEMBER 1973

Table 24

ENVIRONMENTAL HEALTH, unspecified

	All Facilities Surveyed	All Hospitals			Extended Care Facilities		VNAs	Clinical Labs.	Industrial Infirmaries	State (excl. Hosp.)	Other Employers (Total)
		General and VA Hospitals	Psych. Hosp.	Chronic Disease Hosp.	Nursing Homes	Rest Homes					
Full-time Employees	24	-	-	-	-	-	-	-	-	-	24
% female full-time	0										0
Part-time employees	0										0
% female part-time	-										-
Total number employed	24										24
Number employed-FTE	24.0										24.0
Vacancies-FTE	0										0
Total Employment opportunities-FTE	24.0										24.0
Annual Turnover rate	16.6										16.6
Employer Perceived Projections											
1975: Method A	28.0										28.0
Method B	28.0										28.0
Method C	28.0										28.0
1980: Method A	28.0										28.0
Method B	28.0										28.0
Method C	28.0										28.0

Table 24 (Cont'd.)

ENVIRONMENTAL HEALTH, unspecified

	Other Employers								All Hosp.	ECFs (Nursing & rest homes)	State (including State Hosp.)
	Dental Labs.	NHC & HMO	School Infirmaries	Group Practices	Phys. Therapy Groups	Vol. Health Orgs.	Local Health Depts.	Drug Clinics			
Full-time Employees	-	-	-	-	-	-	24	-	-	-	-
% female full-time							0				
Part-time employees							0				
% female part-time							-				
Total number employed							24				
Number employed-FTE							24.0				
Vacancies-FTE							0				
Total Employment opportunities-FTE							24.0				
Annual Turnover rate							16.6				
Employer Perceived Projections											
1975: Method A							28.0				
Method B							28.0				
Method C							28.0				
1980: Method A							28.0				
Method B							28.0				
Method C							28.0				

7. Laboratory: (tables 25-33)

The questionnaire sent to the employers requested information on the employment of five occupations in the medical laboratory field: Histologic technician, cytotechnologist, certified laboratory assistant (CLA), medical laboratory technician (MLT), and medical technologist. In addition to these five, a substantial number of facilities reported employing medical laboratory assistants with on-the-job training, and so this category, medical laboratory assistant (OJT) has been added. Also, one hospital could not provide data using these classifications and combined the MLT and medical technologist categories (table 32).

Laboratory workers represented the second largest group employed with a total of 1,873 workers. Approximately two-thirds of these people worked in general hospitals. Clinical labs were the second largest employer of this group with 323 people, or 17%. The remainder found employment in psychiatric and chronic disease hospitals, nursing homes, industrial infirmaries, state agencies, NHC's and HMO's, MD group practices, voluntary health organizations, and local health departments.

Of those employed, 18% work part-time. It was found that for three of these occupations, CLA, MLT and medical lab assistant (OJT), the proportion of full-time workers who were female was greater than the proportion of part-time workers who were female, rather than the reverse, which is the usual trend observed.

The vacancy rate of 4.3 falls within the average.

The projections as perceived by the employer revealed close to average increases: between 6.7% and 9.3% by 1975, and between 17.8% and 26.0% over current employment opportunities by 1980.

The proportions of the different occupations within this group show some interesting variations (table 26). Almost half of the current employment opportunities fall into the medical technologist category. MLT represents the next largest group with 23%, and both CLA and medical lab assistant (OJT) are roughly 8.4%. Histologic technologists and cytotechnologists are the smallest with 3.4% and 4.7% respectively.

However, the projections show that different proportions are anticipated for 1980. Medical technologists are projected to occupy up to 55% of all employment opportunities in this field, and, while CLA's will remain approximately the same, the proportion of MLT's shows a slight decrease. The proportion of histologic technicians is projected to increase slightly, while the proportion of cytotechnologists shows a balancing decrease. The greatest drop is in the medical lab assistant (OJT) category which goes from 8.4% of all current employment opportunities to a projected 3.6% in 1980. This could reveal a trend on the employers part to seek not only formally trained people (versus on-the-job trained) but more highly trained people.

EMPLOYMENT PATTERNS OF SELECTED HEALTH OCCUPATIONS IN CONNECTICUT - SEPTEMBER 1973

Table 25

Laboratory

	All Facilities Surveyed	All Hospitals			Extended Care Facilities		VNAs	Clinical Labs.	Industrial Infirmaries	State (excl. Hosp.)	Other Employers (Total)
		General and VA Hospitals	Psych. Hosp.	Chronic Disease Hosp.	Nursing Homes	Rest Homes					
Full-time Employees	1532	1011	21	29	0	--	--	269	31	25	146
% female full-time											
Part-time employees	341	252	0	1	4			54	6	0	24
% female part-time											
Total number employed	1873	1263	21	30	4			323	37	25	170
Number employed-FTE	1704.0	1137.0	21.0	30.2	1.9			296.0	34.4	25.0	158.5
Vacancies-FTE	77.4	48.9	4.0	4.5	0			9.4	3.4	5.0	2.2
Total Employment opportunities-FTE	1781.4	1185.9	25.0	34.7	1.9			305.4	37.8	30.0	160.7
Annual Turnover rate											
Employer Perceived Projections											
1975: Method A	1901.5	1261.9	25.0	34.6	7.4			340.1	34.4	30.0	168.1
Method B	1939.7	1282.3	25.0	34.6	7.4			357.9	34.4	30.0	168.1
Method C	1947.4	1283.1	25.0	34.6	7.4			364.8	34.4	30.0	168.1
1980: Method A	2098.9	1405.8	25.0	38.9	7.4			388.5	34.4	30.0	168.9
Method B	2214.3	1470.7	25.0	40.3	7.4			437.6	34.4	30.0	168.9
Method C	2244.5	1482.8	25.0	40.3	7.4			455.7	34.4	30.0	168.9

Table 25 (Cont'd.)

Laboratory

	Other Employers								All Hosp.	ECFs (Nursing & rest homes)	State (including State Hosp.)
	Dental Labs.	NHC & HMO	School Infirmaries	Group Practices	Phys. Therapy Groups	Vol. Health Orgs.	Local Health Depts.	Drug Clinics			
Full-time Employees	---	24	---	9	---	101	12	---	1061	0	89
% female full-time											
Part-time employees		0		0		24	0		253	4	8
% female part-time											
Total number employed		24		9		125	12		1314	4	97
Number employed-FTE		24.2		8.8		113.5	12.0		1188.2	1.9	93.0
Vacancies-FTE		2.2		0		0	0		57.4	0	13.0
Total Employment opportunities-FTE		26.4		8.8		113.5	12.0		1245.6	1.9	106.0
Annual Turnover rate											
Employer Perceived Projections											
1975: Method A		35.2		8.8		112.1	12.0		1321.5	7.4	
Method B		35.2		8.8		112.1	12.0		1341.9	7.4	
Method C		35.2		8.8		112.1	12.0		1342.7	7.4	
1980: Method A		44.0		8.8		104.1	12.0		1469.7	7.4	
Method B		44.0		8.8		104.1	12.0		1536.0	7.4	
Method C		44.0		8.8		104.1	12.0		1548.1	7.4	

EMPLOYMENT PATTERNS OF SELECTED HEALTH OCCUPATIONS IN CONNECTICUT - SEPTEMBER 1973

Table 26

Laboratory	Histologic Tech.	%	Cytotech.	%	C.L.A.	%	M.L.T.	%	Med. Tech.	%	Med. Lab. Asst. (OJT)	%	Med. Tech. and M.L.T.	%	Total
Full-time Employees	54	3.5	69	4.5	122	8.0	349	22.8	774	50.5	128	8.4	36	2.3	1532
Part-time employees	11	3.2	20	5.8	49	14.4	87	25.5	138	40.5	33	9.7	3	.9	341
Total number employed	65	3.5	89	4.7	171	9.1	436	23.3	912	48.7	161	8.6	39	2.1	1873
Number employed-FTE	59.5	3.5	79.1	4.7	146.6	8.6	392.6	23.0	843.5	49.5	145.2	8.5	37.5	2.2	1704.0
Vacancies-FTE	.3	.4	5.6	7.2	2.2	2.8	18.6	24.0	44.7	57.8	4.0	5.2	2.0	2.6	77.4
Total Employment opportunities-FTE	59.8	3.4	84.7	4.7	148.8	8.3	411.2	23.1	888.2	49.9	149.2	8.4	39.5	2.2	1781.4
Employer Perceived Projections															
1975: Method A	73.5	3.9	86.2	4.5	166.7	8.8	439.7	23.1	959.2	50.4	136.2	7.2	40.0	2.1	1901.5
Method B	75.9	3.9	88.0	4.5	168.3	8.7	445.6	23.0	985.7	50.8	136.2	7.0	40.0	2.1	1939.7
Method C	75.9	3.9	88.0	4.5	168.3	8.6	447.9	23.0	991.1	50.9	136.2	7.0	40.0	2.1	1947.4
1980: Method A	84.1	4.0	93.8	4.5	187.2	8.9	481.0	22.9	1127.4	53.7	80.4	3.8	45.0	2.2	2098.9
Method B	89.0	4.0	96.7	4.4	193.4	8.8	496.6	22.4	1213.2	54.8	80.4	3.6	45.0	2.0	2214.3
Method C	89.2	4.0	96.9	4.3	194.0	8.6	503.4	22.4	1235.6	55.1	80.4	3.6	45.0	2.0	2244.5

Histologic Technician:

Sixty-five histologic technicians were reported employed at the time of the survey. All of these were employed in hospitals. However, clinical labs projected that by 1975 three FTE would be employed in these facilities also.

Fifty-four of these people worked full-time, 11 part-time. Of the full-time workers, 80% were female, 91% of the part-time workers were female.

Only 0.3 FTE vacancies were reported. The annual turnover rate was comparatively low at 8.7.

Sizable increases in the employment of this occupation were projected: between 23% and 27% for 1975; and 41% and 49% of current employment opportunities by 1980.

Cytotechnologist:

Eighty-nine cytotechnologists were employed in the surveyed facilities, 65 in general and VA hospitals, 24 in clinical labs. Roughly three-quarters of these worked full-time. Approximately 91% of all workers were female.

At the time of the survey, 5.6 vacancies were reported, giving a rate of 6.6%. The annual turnover rate was reported as 12.5.

The projections show only slight increases: between 1.8 and 3.9% by 1975, and 10.7 and 14.4% by 1980.

EMPLOYMENT PATTERNS OF SELECTED HEALTH OCCUPATIONS IN CONNECTICUT - SEPTEMBER 1973

Table 27

Histologic Technician

	All Facilities Surveyed	All Hospitals			Extended Care Facilities		VNAs	Clinical Labs.	Industrial Infirmaries	State (excl. Hosp.)	Other Employers (Total)
		General and VA Hospitals	Psych. Hosp.	Chronic Disease Hosp.	Nursing Homes	Rest Homes					
Full-time Employees	54	54	---	---	---	---	---	0	---	---	---
% female full-time	79.6	79.6						---			
Part-time employees	11	11						0			
% female part-time	90.9	90.9						---			
Total number employed	65	65						0			
Number employed-FTE	59.5	59.5						0			
Vacancies-FTE	.3	.3						0			
Total Employment opportunities-FTE	59.8	59.8						0			
Annual Turnover rate	8.7	8.7						---			
Employer Perceived Projections											
1975: Method A	73.5	70.5						3.0			
Method B	75.9	72.9						3.0			
Method C	75.9	72.9						3.0			
1980: Method A	84.1	81.1						3.0			
Method B	89.0	86.0						3.0			
Method C	89.2	86.2						3.0			

Table 27 (Cont'd.)

Histologic Technician	Other Employers								All Hosp.	ECFs (Nursing & rest homes)	State (including State Hosp.)
	Dental Lab.	NHC & HMO	School Infirmaries	Group Practices	Phys. Therapy Groups	Vol. Health Orgs.	Local Health Depts.	Drug Clinics			
Full-time Employees	---	---	---	---	---	---	---	---	54	---	---
% female full-time									79.6		
Part-time employees									11		
% female part-time									90.9		
Total number employed									65		
Number employed-FTE									59.5		
Vacancies-FTE									.3		
Total Employment opportunities-FTE									59.8		
Annual Turnover rate											
Employer Perceived Projections											
1975: Method A									70.5		
Method B									72.9		
Method C									72.9		
1980: Method A									81.1		
Method B									86.0		
Method C									86.2		

EMPLOYMENT PATTERNS OF SELECTED HEALTH OCCUPATIONS IN CONNECTICUT - SEPTEMBER 1973

Table 28

Cytotechnologist

	All Facilities Surveyed	All Hospitals			Extended Care Facilities		VNAs	Clinical Labs.	Industrial Infirmaries	State (excl. Hosp.)	Other Employers (Total)
		General and VA Hospitals	Psych. Hosp.	Chronic Disease Hosp.	Nursing Homes	Rest Homes					
Full-time Employees	69	54	---	---	---	---	---	15	---	---	---
% female full-time	91.2	92.5						66.6			
Part-time employees	20	11						9			
% female part-time	91.6	90.9						100			
Total number employed	89	65						24			
Number employed-FTE	79.1	59.5						19.6			
Vacancies-FTE	5.6	2.5						3.1			
Total Employment opportunities-FTE	84.7	62.0						22.7			
Annual Turnover rate	12.5	13.1						0			
Employer Perceived Projections											
1975: Method A	86.2	62.0						24.2			
Method B	88.0	62.0						26.0			
Method C	88.0	62.0						26.0			
1980: Method A	93.8	69.6						24.2			
Method B	96.7	70.7						26.0			
Method C	96.9	70.9						26.0			

Table 28 (Cont'd.)

Cytotechnologist

	Other Employers								All Hosp.	ECFs (Nursing & rest homes)	State (including State Hosp.)
	Dental Labs.	NHC & HMO	School Infirmaries	Group Practices	Phys. Therapy Groups	Vol. Health Orgs.	Local Health Depts.	Drug Clinics			
Full-time Employees	---	---	---	---	---	---	---	---	54	---	---
% female full-time									---		
Part-time employees									11		
% female part-time									---		
Total number employed									65		
Number employed-FTE									59.5		
Vacancies-FTE									2.5		
Total Employment opportunities-FTE									62.0		
Annual Turnover rate											
Employer Perceived Projections											
1975: Method A									62.0		
Method B									62.0		
Method C									62.0		
1980: Method A									69.6		
Method B									70.7		
Method C									70.9		

Certified Laboratory Assistant:

The 171 CLA's reported employed were found in a variety of facilities. Seventy-five percent of them were employed in general and VA hospitals, 21% in clinical labs and the remainder in either chronic disease hospitals or voluntary health organizations.

One hundred twenty-two of the 171 worked full-time. For this occupation the proportion of females was greater for those working full-time, 87%, than for those working part-time, 73%.

The number of vacancies reported was 2.2 giving a low rate of 1.5%. The annual turnover rate, 19.5, was close to the average found for all occupations.

Increases of slightly above the average rate were projected: between 12.9% and 13.1% for 1975, and 25.8% and 30.4% for 1980.

Medical Laboratory Technician:

MLT's were reported employed in a relatively large number of different facilities. Two-thirds of the 436 employed were found in general or VA hospitals. Clinical labs were the next largest employer with 23%. The remainder were found in psychiatric and chronic disease hospitals, nursing homes, industrial infirmaries, NHC's and HMO's, and MD group practices.

Three hundred forty-nine MLT's worked full-time, 87 part-time. As found with CLA's, a greater proportion of the full-time workers were female, 78%, than of the part-time workers, 71%.

The vacancy rate was close to average at 4.5%. The annual turnover rate was 18.3, slightly below average.

The projections as perceived by the employer were slightly below the average rate of increase demonstrated by all the occupations combined: between 6.9% and 8.9% for 1975, and between 16.9% and 22.4% for 1980. Clinical labs and general and VA hospitals projected the greatest increase while the rest of the facilities indicated a fairly stable employment over this time period.

Medical Technologist:

Medical Technologists were also employed in a large variety of facilities. General and VA hospitals were again the largest employer, with 73% of the 912 employed. Clinical labs employed 17% and the remainder were employed in the psychiatric and chronic disease hospitals, state agencies, NHC's and HMO's, voluntary health organizations and local health departments.

Seven hundred seventy-four medical technologists worked full-time, with 77.2% female; 138 worked part-time with 88.5% female.

The surveyed facilities reported 44.7 vacancies, giving a vacancy rate of 5%. The annual turnover rate was 15.9.

Average increases in employment opportunities, between 8% and 12%, were projected for 1975. However, the projections as perceived by the employer for 1980 showed increases substantially larger than average, between 27% and 39% over current employment opportunities.

Note:

Data from the one hospital that combined the medical laboratory technician and medical technologist categories are presented in table 32.

Medical Laboratory Assistant (OJT):

Several facilities reported employing medical laboratory assistants who had received on-the-job training only. Most of these people, 117 out of the total of 161, or 73%, were employed by voluntary health organizations. Clinical labs, industrial infirmaries, state agencies, and general hospitals also reported employing this type of personnel.

One hundred twenty-eight worked full-time, 33 worked part-time. Again, a greater proportion of the full-time workers were female, 62%, than of the part-time workers, 57%.

Only four vacancies were reported, giving a vacancy rate of 2.6%. However, there was an exceptionally high annual turnover rate of 49.5. (Both the state agencies and voluntary health organizations, which were the largest employers of this occupation, reported high annual turnover rates, 33.3 and 60.7 respectively.)

The projections as perceived by the employer showed a marked decrease in employment opportunities for these people, dropping to 80.4, or slightly over half of the current employment opportunities in 1980. This was due to a large decrease reported by the voluntary health organizations. Employment opportunities in the other facilities either remained stable or increased slightly. Examination of tables 25 and 26 shows that this decrease in the voluntary health organizations is almost completely compensated by increases in the employment of other laboratory personnel.

EMPLOYMENT PATTERNS OF SELECTED HEALTH OCCUPATIONS IN CONNECTICUT - SEPTEMBER 1973

Table 29

Certified Laboratory Assistant

	All Facilities Surveyed	All Hospitals			Extended Care Facilities		VNAs	Clinical Labs.	Industrial Infirmaries	State (excl. Hosp.)	Other Employers (Total)
		General and VA Hospitals	Psych. Hosp.	Chronic Disease Hosp.	Nursing Homes	Rest Homes					
Full-time Employees	122	92	---	3	---	---	---	24	---	---	3
% female full-time	86.5	88.0		100				62.5			100
Part-time employees	49	37		0				12			0
% female part-time	72.9	72.9		---				dk			---
Total number employed	171	129		3				36			3
Number employed-FTE	146.6	110.5		3.2				30.2			2.7
Vacancies-FTE	2.2	2.2		0				0			0
Total Employment opportunities-FTE	148.8	112.7		3.2				30.2			2.7
Annual Turnover rate	19.5	19.1		0.0				50.0			
Employer Perceived Projections											
1975: Method A	166.7	127.0		4.2				30.2			5.3
Method B	168.3	128.6		4.2				30.2			5.3
Method C	168.3	128.6		4.2				30.2			5.3
1980: Method A	187.2	140.7		5.3				33.2			8.0
Method B	193.4	144.0		6.4				35.0			8.0
Method C	194.0	144.6		6.4				35.0			8.0

Table 29 (Cont'd.)

Certified Laboratory Assistant

	Other Employers								All Hosp.	ECF's (Nursing & rest homes)	State (including State Hosp.)
	Dental Labs.	NHC & HMO	School Infirmaries	Group Practices	Phys. Therapy Groups	Vol. Health Orgs.	Local Health Depts.	Drug Clinics			
Full-time Employees	---	---	---	---	---	3	---	---	95	---	3
% female full-time						100					
Part-time employees						0			37		0
% female part-time						---					
Total number employed						3			132		3
Number employed-FTE						2.7			113.7		3.0
Vacancies-FTE						0			2.2		0
Total Employment opportunities-FTE						2.7			115.9		3.0
Annual Turnover rate						0.0					
Employer Perceived Projections											
1975: Method A						5.3			131.2		
Method B						5.3			132.8		
Method C						5.3			132.8		
1980: Method A						8.0			146.0		
Method B						8.0			150.4		
Method C						8.0			151.0		

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EMPLOYMENT PATTERNS OF SELECTED HEALTH OCCUPATIONS IN CONNECTICUT - SEPTEMBER 1973

Table 30

Medical Laboratory Technician

	All Facilities Surveyed	All Hospitals			Extended Care Facilities		VNAs	Clinical Labs.	Industrial Infirmaries	State (excl. Hosp.)	Other Employers (Total)
		General and VA Hospitals	Psych. Hosp.	Chronic Disease Hosp.	Nursing Homes	Rest Homes					
Full-time Employees	349	217	2	2	0	---	---	91	24	---	13
% female full-time	77.6	75.6	50.0	100	---			87.5	100		
Part-time employees	87	71	0	0	4			9	3		0
% female part-time	71.0	69.0	---	---	100			100	100		
Total number employed	436	288	2	2	4			100	27		13
Number employed-FTE	392.6	252.5	2.0	2.1	1.9			95.1	25.8		13.2
Vacancies-FTE	18.6	14.1	0	1.1	0			0	3.4		0
Total Employment opportunities-FTE	411.2	266.6	2.0	3.2	1.9			95.1	29.2		13.2
Annual Turnover rate	18.3	19.		50.0				7.1	13.3		
Employer Perceived Projections											
1975: Method A	439.7	280.4	2.0	3.2	7.4			107.2	24.1		15.4
Method B	445.6	282.7	2.0	3.2	7.4			110.8	24.1		15.4
Method C	447.9	283.5	2.0	3.2	7.4			112.3	24.1		15.4
1980: Method A	481.0	299.5	2.0	4.2	7.4			128.4	24.1		15.4
Method B	496.6	305.2	2.0	4.2	7.4			138.3	24.1		15.4
Method C	503.4	307.5	2.0	4.2	7.4			142.8	24.1		15.4

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Table 30 (Cont'd.)

Medical Laboratory Technician

	Other Employers								All Hosp.	ECFs (Nursing & rest homes)	State (including State Hosp.)
	Dental Labs.	NHC & HMO	School Infirmaries	Group Practices	Phys. Therapy Groups	Vol. Health Orgs.	Local Health Depts.	Drug Clinics			
Full-time Employees	---	4	---	9	---	---	---	---	221	0	5
% female full-time		100		100							
Part-time employees		0		0					71	4	0
% female part-time		---		---							
Total number employed		4		9					293	4	5
Number employed-FTE		4.4		8.8					256.6	1.9	5.0
Vacancies-FTE		0		0					15.2	0	1.0
Total Employment opportunities-FTE		4.4		8.8					271.8	1.9	6.0
Annual Turnover rate		0		uk							
Employer Perceived Projections											
1975: Method A		6.6		8.8					285.6	7.4	
Method B		6.6		8.8					287.9	7.4	
Method C		6.6		8.8					288.7	7.4	
1980: Method A		6.6		8.8					305.7	7.4	
Method B		6.6		8.8					311.4	7.4	
Method C		6.6		8.8					313.7	7.4	

EMPLOYMENT PATTERNS OF SELECTED HEALTH OCCUPATIONS IN CONNECTICUT - SEPTEMBER 1973

Table 31

Medical Technologist

	All Facilities Surveyed	All Hospitals			Extended Care Facilities		VNAs	Clinical Labs.	Industrial Infirmaries	State (excl. Hosp.)	Other Employers (Total)
		General and VA Hospitals	Psych. Hosp.	Chronic Disease Hosp.	Nursing Homes	Rest Homes					
Full-time Employees	774	554	19	24	---	---	---	133	---	7	37
% female full-time	77.2	79.2	63.1	65.2				61.5		83.3	
Part-time employees	138	116	0	1				21		0	0
% female part-time	88.5	87.9	---	100				100		---	
Total number employed	912	670	19	25				154		7	37
Number employed-FTE	843.5	612.0	19.0	24.9				143.5		7.0	37.1
Vacancies-FTE	44.7	27.8	4.0	3.4				6.3		1.0	2.2
Total Employment opportunities-FTE	888.2	639.8	23.0	28.3				149.8		8.0	39.3
Annual Turnover rate	15.9	16.5	8.3	18.3				14.8		0	
Employer Perceived Projections											
1975: Method A	959.2	676.5	23.0	27.2				167.9		8.0	56.6
Method B	985.7	690.6	23.0	27.2				180.3		8.0	56.6
Method C	991.1	690.6	23.0	27.2				185.7		8.0	56.6
1980: Method A	1127.4	764.4	23.0	29.4				189.1		8.0	113.5
Method B	1213.2	814.3	23.0	29.7				224.7		8.0	113.5
Method C	1235.6	823.1	23.0	29.7				238.3		8.0	113.5

Table 31 (Cont'd.) Medical Technologist	Other Employers								All Hosp.	ECFs (Nursing & rest homes)	State (including State Hosp.)
	Dental Labs.	NHC & HMO	School Infirmaries	Group Practices	Phys. Therapy Groups	Vol. Health Orgs.	Local Health Depts.	Drug Clinics			
Full-time Employees	---	20	---	---	---	5	12	---	597	---	63
% female full-time		77.7				100	66.6				
Part-time employees		0				0	0		117		8
% female part-time		---				---	---				
Total number employed		20				5	12		713		71
Number employed-FTE		19.8				5.3	12.0		655.9		67.0
Vacancies-FTE		2.2				0	0		35.2		8.0
Total Employment opportunities-FTE		22.0				5.3	12.0		691.1		75.0
Annual Turnover rate		11.1				0	33.3				
Employer Perceived Projections											
1975: Method A		28.6				16.0	12.0		726.7		
Method B		28.6				16.0	12.0		740.8		
Method C		28.6				16.0	12.0		740.8		
1980: Method A		37.4				64.1	12.0		816.8		
Method B		37.4				64.1	12.0		867.0		
Method C		37.4				64.1	12.0		875.8		

EMPLOYMENT PATTERNS OF SELECTED HEALTH OCCUPATIONS IN CONNECTICUT - SEPTEMBER 1973

Table 32
Medical Technologist and Medical Laboratory Technologist combined

	All Facilities Surveyed	All Hospitals			Extended Care Facilities		VNAs	Clinical Labs.	Industrial Infirmaries	State (excl. Hosp.)	Other Employers (Total)
		General and VA Hospitals	Psych. Hosp.	Chronic Disease Hosp.	Nursing Homes	Rest Homes					
Full-time Employees	36	36	---	---	---	---	---	---	---	---	---
% female full-time	88.8	88.8									
Part-time employees	3	3									
% female part-time	66.6	66.6									
Total number employed	39	39									
Number employed-FTE	37.5	37.5									
Vacancies-FTE	2.0	2.0									
Total Employment opportunities-FTE	39.5	39.5									
Annual Turnover rate	16.0	16.0									
Employer Perceived Projections											
1975: Method A	40.0	40.0									
Method B	40.0	40.0									
Method C	40.0	40.0									
1980: Method A	45.0	45.0									
Method B	45.0	45.0									
Method C	45.0	45.0									

Table 32 (Cont'd.)
Medical Technologist and Medical Laboratory Technologist combined

	Other Employers										
	Dental Labs.	NHC & HMO	School Infirmaries	Group Practices	Phys. Therapy Groups	Vol. Health Orgs.	Local Health Depts.	Drug Clinics	All Hosp.	ECFs (Nursing & rest homes)	State (including State Hosp.)
Full-time Employees	---	---	---	---	---	---	---	---	36	---	---
% female full-time									88.8		
Part-time employees									3		
% female part-time									66.6		
Total number employed									39		
Number employed-FTE									37.5		
Vacancies-FTE									2.0		
Total Employment opportunities-FTE									39.5		
Annual Turnover rate											
Employer Perceived Projections											
1975: Method A									40.0		
Method B									40.0		
Method C									40.0		
1980: Method A									45.0		
Method B									45.0		
Method C									45.0		

EMPLOYMENT PATTERNS OF SELECTED HEALTH OCCUPATIONS IN CONNECTICUT - SEPTEMBER 1973

Table 33

Medical Laboratory Assistant (OJT)

	All Facilities Surveyed	All Hospitals			Extended Care Facilities		VNAs	Clinical Labs.	Industrial Infirmaries	State (excl. Hosp.)	Other Employers (Total)
		General and VA Hospitals	Psych. Hosp.	Chronic Disease Hosp.	Nursing Homes	Rest Homes					
Full-time Employees	128	4	---	---	---	---	---	6	7	18	93
% female full-time	62.2	100						100	50	77.7	48.5
Part-time employees	33	3						3	3	0	24
% female part-time	57.1	33.3						100	100	---	55.5
Total number employed	161	7						9	10	18	117
Number employed-FTE	145.2	5.5						7.6	8.6	18.0	105.5
Vacancies-FTE	4.0	0						0	0	4.0	0
Total Employment opportunities-FTE	149.2	5.5						7.6	8.6	22.0	105.5
Annual Turnover rate	49.5	0						0	0	33.3	
Employer Perceived Projections											
1975: Method A	136.2	5.5						7.6	10.3	22.0	90.8
Method B	136.2	5.5						7.6	10.3	22.0	90.8
Method C	136.2	5.5						7.6	10.3	22.0	90.8
1980: Method A	80.4	5.5						10.6	10.3	22.0	32.0
Method B	80.4	5.5						10.6	10.3	22.0	32.0
Method C	80.4	5.5						10.6	10.3	22.0	32.0

Table 33 (Cont'd.)

Medical Laboratory Assistant (OJT)

	Other Employers								All Hosp.	ECFs (Nursing & rest homes)	State (including State Hosp.)
	Dental Labs.	NHC & HMO	School Infirmaries	Group Practices	Phys. Therapy Groups	Vol. Health Orgs.	Local Health Depts.	Drug Clinics			
Full-time Employees	---	---	---	---	---	93			4	---	18
% female full-time						48.5			100		
Part-time employees						24			3		0
% female part-time						55.5			33.3		
Total number employed						117			7		18
Number employed-FTE						105.5			5.5		18.0
Vacancies-FTE						0			0		4.0
Total Employment opportunities-FTE						105.5			5.5		22.0
Annual Turnover rate						60.7					
Employer Perceived Projections											
1975: Method A						90.8			5.5		
Method B						90.8			5.5		
Method C						90.8			5.5		
1980: Method A						32.0			5.5		
Method B						32.0			5.5		
Method C						32.0			5.5		

8. Medical Records: (tables 34 - 38)

Data are presented here for three occupations in the field of medical records: Medical record librarian, medical record technician, and medical transcriptionist.

A total of 686 people were reported employed in this field in the surveyed facilities. Almost half were employed in general and VA hospitals. Nursing homes were the next largest employer with roughly one-quarter. Other facilities that reported employing people in these occupations include psychiatric and chronic disease hospitals, rest homes with nursing supervision, industrial infirmaries, state agencies, NHC's and HMO's, school infirmaries, MD group practices, and voluntary health organizations. A surprisingly large proportion of these people, slightly over one-third, worked part-time. It may be noted that 93% of those employed in nursing homes worked part-time. This is probably due to a situation similar to that observed with dietitians: a large number of facilities employing a medical record librarian only a few hours a week. This could cause inflation of FTE figures, as these part-timers probably work much less than half a week, and also possible inflation of the actual number of people employed, as some individuals may work for two or more facilities simultaneously.

A total of 33 vacancies was reported resulting in a vacancy rate of 5.5%.

The projections as perceived by the employer showed a higher than average increase: between 10.4% and 17.5% for 1975, and between 20.6% and 31.4% over current employment opportunities for 1980. NHC's and HMO's projected a very large increase in employment in this field.

Comparison of the different occupations revealed that medical transcriptionist was the largest occupation in this field with 53.2% of all reported employment opportunities. Of the current employment opportunities, 24.5% were for medical record librarian and 22.3% for medical record technician. The projections show a possible increase in the proportion of medical record technicians by 1980 with a complementary decrease in the proportion of medical transcriptionists.

EMPLOYMENT PATTERNS OF SELECTED HEALTH OCCUPATIONS IN CONNECTICUT - SEPTEMBER 1973

Table 34

MEDICAL RECORDS

	All Facilities Surveyed	All Hospitals			Extended Care Facilities		VNAs	Clinical Labs.	Industrial Infirmaries	State (excl. Hosp.)	Other Employers (Total)
		General and VA Hospitals	Psych. Hosp.	Chronic Disease Hosp.	Nursing Homes	Rest Homes					
Full-time Employees	437	258	64	33	11	0	-	-	10	16	45
% female full-time											
Part-time employees	249	68	3	3	155	4			0	0	16
% female part-time											
Total number employed	686	326	67	36	166	4			10	16	61
Number employed-FTE	565.0	292.0	66.5	35.5	88.9	1.8			10.3	16.0	54.0
Vacancies-FTE	33.0	16.7	3.2	3.7	7.4	0			0	2.0	0
Total Employment opportunities-FTE	598.0	308.7	69.7	39.2	96.3	1.8			10.3	18.0	54.0
Annual Turnover rate											
Employer Perceived Projections											
1975: Method A	660.7	320.8	76.5	39.3	126.2	1.8			13.7	18.0	64.4
Method B	686.9	325.2	79.0	39.3	145.5	1.8			13.7	18.0	64.4
Method C	702.8	325.6	79.0	39.3	161.0	1.8			13.7	18.0	64.4
1980: Method A	721.4	364.6	78.1	40.3	120.7	1.8			17.2	18.0	80.7
Method B	774.6	384.8	86.8	41.6	143.7	1.8			17.2	18.0	80.7
Method C	785.8	386.3	87.0	41.6	153.2	1.8			17.2	18.0	80.7

Table 34 (Cont'd.)

MEDICAL RECORDS

	Other Employers								All Hosp.	ECFs (Nursing & rest homes)	State (including State Hosp.)
	Dental Labs.	NHC & HMO	School Infirmaries	Group Practices	Phys. Therapy Groups	Vol. Health Orgs.	Local Health Depts.	Drug Clinics			
Full-time Employees	-	17	0	17	-	11	-	-	355	11	94
% female full-time											
Part-time employees		0	3	13		0			74	159	1
% female part-time											
Total number employed		17	3	30		11			429	170	95
Number employed-FTE		17.6	1.5	24.2		10.7			394.0	90.7	94.5
Vacancies-FTE		0	0	0		0			23.6	7.4	5.0
Total Employment opportunities-FTE		17.6	1.5	24.2		10.7			417.6	98.1	99.5
Annual Turnover rate											
Employer Perceived Projections											
1975: Method A		26.4	3.1	24.2		10.7			436.6	128.0	
Method B		26.4	3.1	24.2		10.7			443.5	147.3	
Method C		26.4	3.1	24.2		10.7			443.9	162.8	
1980: Method A		37.4	3.1	24.2		16.0			483.0	122.5	
Method B		37.4	3.1	24.2		16.0			513.2	145.5	
Method C		37.4	3.1	24.2		16.0			514.9	155.0	

EMPLOYMENT PATTERNS OF SELECTED HEALTH OCCUPATIONS IN CONNECTICUT - SEPTEMBER 1973

Table 35

Medical Records	Medical Record Librarian	%	Medical Record Technician	%	Medical Transcriptionist	%	Total
Full-time Employees	73	16.7	98	22.4	266	60.9	437
Part-time employees	125	50.2	51	20.5	73	29.3	249
Total number employed	198	28.9	149	21.7	339	49.4	686
Number employed-FTE	137.6	24.3	124.1	22.0	303.3	53.7	565.0
Vacancies-FTE	8.6	26.1	9.5	28.8	14.9	45.1	33.0
Total Employment opportunities-FTE	146.2	24.5	133.6	22.3	318.2	53.2	598.0
Employer Perceived Projections							
1975: Method A	171.4	25.9	154.7	23.4	334.6	50.7	660.7
Method B	181.4	26.4	170.0	24.8	335.5	48.8	686.9
Method C	192.6	27.4	174.6	24.8	335.6	47.8	702.8
1980: Method A	173.9	24.1	164.7	22.8	382.8	53.1	721.4
Method B	186.2	24.1	186.9	24.1	401.5	51.8	774.6
Method C	194.5	24.8	189.0	24.0	402.3	51.2	785.8

Medical Record Librarian:

One hundred ninety-eight medical record librarians were reported employed in the surveyed facilities. Nursing homes and general hospitals were the largest employers of this occupation but employment opportunities were also found in psychiatric and chronic disease hospitals, rest homes, industrial infirmaries, NHC's and HMO's, MD group practices, and voluntary health organizations.

One hundred twenty-five, or 63%, of those reported employed worked part-time; 118 of these were employed in nursing homes. As explained above, this figure and comparable FTE figures for numbers employed and numbers of employment opportunities are probably inflated due to the employment patterns exhibited in these facilities by this occupation. A much more detailed study must be done to determine accurately the number of people employed in this and other occupations in those types of facilities which require their services only a few hours a week.

Ninety-seven percent of both the part- and full-time workers were female.

The surveyed facilities reported 8.6 vacancies giving a vacancy rate of 5.9%. The annual turnover rate was low at 5.3.

Slightly higher than average projections were reported by the employers: between 17.2 and 31.7% by 1975 and between 18.9 and 33.0% over current employment opportunities by 1980.

Medical Record Technician:

One hundred forty-nine medical record technicians were employed at the time of the survey. General and VA hospitals employed 56% of these. The remainder was reported by psychiatric and chronic disease hospitals, nursing homes, state agencies, school infirmaries, and voluntary health organizations.

Approximately two-thirds were employed full-time, one-third part-time. All of the medical record technicians reported were female.

The vacancy rate, 7.1%, was higher than average. This supports some interview responses that indicated a current shortage of people trained in this field. The annual turnover rate was 13.4.

The projections as perceived by the employer showed a large projected increase in the employment opportunities for this occupation; between 15.8 and 30.7% for 1975, and between 23.3 and 41.5% over current employment opportunities for 1980.

Medical Transcriptionist:

Three hundred thirty-nine medical transcriptionists were reported employed. Almost two-thirds of these were employed in general and VA hospitals. Employment opportunities were also found in psychiatric and chronic disease hospitals, nursing homes, industrial infirmaries, state agencies, NHC's and HMO's, MD group practices, and voluntary health organizations.

In comparison to the other two occupations in this field, a small percentage, 22%, of the employed medical transcriptionists work part-time. This is possibly due in part to the greater need in FTE's on the part of the facilities for this type of personnel in comparison to the other occupations, especially medical record librarian, where possibly less than .5 FTE per week is sufficient.

Over 99% of those employed were female. The vacancy rate was about average at 4.7%. The annual turnover rate was 12.3.

The projections as perceived by the employer show a low rate of increase for 1975, from 5.1 to 5.5%, but an average rate for 1980, from 20.3 to 26.4% over current employment opportunities.

EMPLOYMENT PATTERNS OF SELECTED HEALTH OCCUPATIONS IN CONNECTICUT - SEPTEMBER 1973

Table 36

MEDICAL RECORD LIBRARIAN

	All Facilities Surveyed	All Hospitals			Extended Care Facilities		VNAs	Clinical Labs.	Industrial Infirmaries	State (excl. Hosp.)	Other Employers (Total)
		General and VA Hospitals	Psych. Hosp.	Chronic Disease Hosp.	Nursing Homes	Rest Homes					
Full-time Employees	73	38	8	6	7	0	-	-	3	-	11
% female full-time	96.6	97.4	87.5	100	100	-			100		
Part-time employees	125	2	0	1	118	4			0		0
% female part-time	96.8	100	-	100	96.5	100			-		
Total number employed	198	40	8	7	125	4			3		11
Number employed-FTE	137.6	39.0	8.4	6.9	66.6	1.8			3.4		11.5
Vacancies-FTE	8.6	2.0	1.0	0	5.6	0			0		0
Total Employment opportunities-FTE	146.2	41.0	9.4	6.9	72.2	1.8			3.4		11.5
Annual Turnover rate	5.3	3.4	25.0	0	8.3	0			0		
Employer Perceived Projections											
1975: Method A	171.4	43.0	11.6	6.9	91.0	1.8			3.4		13.7
Method B	181.4	43.4	13.0	6.9	99.2	1.8			3.4		13.7
Method C	192.6	43.5	13.0	6.9	110.3	1.8			3.4		13.7
1980: Method A	173.9	45.1	11.6	6.9	89.2	1.8			3.4		15.9
Method B	186.2	46.0	13.0	6.9	99.2	1.8			3.4		15.9
Method C	194.5	46.4	13.2	6.9	106.9	1.8			3.4		15.9

Table 36 (Cont'd.)

MEDICAL RECORD LIBRARIAN

	Other Employers										
	Dental Labs.	NHC & HMO	School Infirmaries	Group Practices	Phys. Therapy Groups	Vol. Health Orgs.	Local Health Depts.	Drug Clinics	All Hosp.	ECFs (Nursing & rest homes)	State (including State Hosp.)
Full-time Employees	-	4	-	4	-	3	-	-	52	7	11
% female full-time		100		100		100					
Part-time employees		0		0		0			3	122	0
% female part-time		-		-		-					
Total number employed		4		4		3			55	129	11
Number employed-FTE		4.4		4.4		2.7			54.3	68.4	11.0
Vacancies-FTE		0		0		0			3.0	5.6	1.0
Total Employment opportunities-FTE		4.4		4.4		2.7			57.3	74.0	12.0
Annual Turnover rate		0		0		0					
Employer Perceived Projections											
1975: Method A		6.6		4.4		2.7			61.5	92.8	
Method B		6.6		4.4		2.7			63.3	101.0	
Method C		6.6		4.4		2.7			63.4	112.1	
1980: Method A		8.8		4.4		2.7			63.6	91.0	
Method B		8.8		4.4		2.7			65.9	101.0	
Method C		8.8		4.4		2.7			66.5	108.7	

EMPLOYMENT PATTERNS OF SELECTED HEALTH OCCUPATIONS IN CONNECTICUT - SEPTEMBER 1973

Table 37

MEDICAL RECORD TECHNICIAN

	All Facilities Surveyed	All Hospitals			Extended Care Facilities		VNAs	Clinical Labs.	Industrial Infirmaries	State (excl. Hosp.)	Other Employers (Total)
		General and VA Hospitals	Psych. Hosp.	Chronic Disease Hosp.	Nursing Homes	Rest Homes					
Full-time Employees	98	69	4	2	4	-	-	-	-	14	5
% female full-time	100	100	100	100	100					100	100
Part-time employees	51	14	1	0	33					0	3
% female part-time	100	100	100	-	100					-	100
Total number employed	149	83	5	2	37					14	8
Number employed-FTE	124.1	76.0	4.8	2.1	20.4					14.0	6.8
Vacancies-FTE	9.5	3.5	2.2	0	1.8					2.0	0
Total Employment opportunities-FTE	133.6	79.5	7.0	2.1	22.2					16.0	6.8
Annual Turnover rate	13.4	14.3	0	0	0					0	
Employer Perceived Projections											
1975: Method A	154.7	87.0	6.8	3.2	33.3					16.0	8.4
Method B	170.0	90.2	7.8	3.2	44.4					16.0	8.4
Method C	174.6	90.4	7.8	3.2	48.8					16.0	8.4
1980: Method A	164.7	97.0	7.8	3.2	29.6					16.0	11.1
Method B	186.9	104.6	9.4	3.2	42.6					16.0	11.1
Method C	189.0	104.9	9.4	3.2	44.4						

Table 37 (Cont'd.)

MEDICAL RECORD TECHNICIAN

	Other Employers								All Hosp.	ECFs (Nursing & rest homes)	State (including State Hosp.)
	Dental Labs.	NHC & HMO	School Infirmaries	Group Practices	Phys. Therapy Groups	Vol. Health Orgs.	Local Health Depts.	Drug Clinics			
Full-time Employees	-	-	0	-	-	5	-	-	75	4	19
% female full-time			-			100					
Part-time employees			3			0			15	33	0
% female part-time			100			-					
Total number employed			3			5			90	37	19
Number employed-FTE			1.5			5.3			82.9	20.4	19.0
Vacancies-FTE			0			0			5.7	1.8	3.0
Total Employment opportunities-FTE			1.5			5.3			88.6	22.2	22.0
Annual Turnover rate			200.0			0					
Employer Perceived Projections											
1975: Method A			3.1			5.3			97.0	33.3	
Method B			3.1			5.3			101.2	44.4	
Method C			3.1			5.3			101.4	48.8	
1980: Method A			3.1			8.0			108.0	29.6	
Method B			3.1			8.0			117.2	42.6	
Method C			3.1			8.0			117.5	44.4	

EMPLOYMENT PATTERNS OF SELECTED HEALTH OCCUPATIONS IN CONNECTICUT - SEPTEMBER 1973

Table 38

MEDICAL TRANSCRIPTIONIST

	All Facilities Surveyed	All Hospitals			Extended Care Facilities		VNAs	Clinical Labs.	Industrial Infirmaries	State (excl. Hosp.)	Other Employers (Total)
		General and VA Hospitals	Psych. Hosp.	Chronic Disease Hosp.	Nursing Homes	Rest Homes					
Full-time Employees	266	151	52	25	0	-	-	-	7	2	29
% female full-time	99.5	99.3	100	100	-				100	100	100
Part-time employees	73	52	2	2	4				0	0	13
% female part-time	100	100	100	100	100				-	-	100
Total number employed	339	203	54	27	4				7	2	42
Number employed-FTE	303.3	177.0	53.3	26.5	1.9				6.9	2.0	35.7
Vacancies-FTE	14.9	11.2	0	3.7	0				0	0	0
Total Employment opportunities-FTE	318.2	188.2	53.3	30.2	1.9				6.9	2.0	35.7
Annual Turnover rate	12.3	9.2	13.3	12.0	0				100.0	0	
Employer Perceived Projections											
1975: Method A	334.6	190.8	58.1	29.2	1.9				10.3	2.0	42.3
Method B	335.5	191.6	58.2	29.2	1.9				10.3	2.0	42.3
Method C	335.6	191.7	58.2	29.2	1.9				10.3	2.0	42.3
1980: Method A	382.8	222.5	58.7	30.2	1.9				13.8	2.0	53.7
Method B	401.5	234.2	64.4	31.5	1.9				13.8	2.0	53.7
Method C	402.3	235.0	64.4	31.5	1.9				13.8	2.0	53.7

Table 38 (Cont'd.)

MEDICAL TRANSCRIPTIONIST

	Other Employers								All Hosp.	ECFs (Nursing & rest homes)	State (including State Hosp.)
	Dental Labs.	NHC & HMO	School Infirmaries	Group Practices	Phys. Therapy Groups	Vol. Health Orgs.	Local Health Depts.	Drug Clinics			
Full-time Employees	-	13	-	13	-	3	-	-	228	0	64
% female full-time		100		100		100					
Part-time employees		0		13		0			56	4	1
% female part-time		-		100		-					
Total number employed		13		26		3			284	4	65
Number employed-FTE		13.2		19.8		2.7			256.8	1.9	64.5
Vacancies-FTE		0		0		0			14.9	0	1.0
Total Employment opportunities-FTE		13.2		19.8		2.7			271.7	1.9	65.5
Annual Turnover rate		50.0		0		0					
Employer Perceived Projections											
1975: Method A		19.8		19.8		2.7			278.1	1.9	
Method B		19.8		19.8		2.7			279.0	1.9	
Method C		19.8		19.8		2.7			279.1	1.9	
1980: Method A		28.6		19.8		5.3			311.4	1.9	
Method B		28.6		19.8		5.3			330.1	1.9	
Method C		28.6		19.8		5.3			330.9	1.9	

9. Nursing: (tables 39 - 51)

Five basic categories in the nursing group were investigated in this study: Registered nurse, licensed practical nurse, nursing aide, psychiatric aide, and correctional attendant I. In addition, four specialized categories within the registered nurse category were studied: Pediatric nurse associate, adult medicine ambulatory care nurse practitioner, nurse midwife, and nurse anesthetist.

Nursing was the largest group studied in this survey with 31,371 reported employed in the surveyed facilities. Employment opportunities were found in every facility category with the exception of dental laboratories and physical therapy groups. General and VA hospitals were the largest employers with 13,046 employed, and nursing homes the second largest with 10,803.

As the nursing group represents three-quarters of all the occupations reported in the survey, it is not surprising that the employment patterns exhibited by this group are very close to the average exhibited by all occupations. Approximately one-third of all those employed work part-time. Extreme exceptions to this are nursing homes, rest homes, and school infirmaries which show a higher proportion of part-time workers, and psychiatric hospitals, state agencies excluding hospitals, NHC's and HMO's and local health departments which show a much lower proportion of part-time workers.

The vacancy rate was 4.1%. Both psychiatric and chronic disease hospitals have higher than average rates, 8.2% and 8.1% respectively, as do the state agencies, both excluding and including hospitals, 8.6% and 8.4% respectively.

The projections as perceived by the employers show slightly lower than average increases however: between 8.7% and 14.8% by 1975, and between 12.2% and 22.1% over current employment opportunities by 1980. Nursing homes, rest homes and visiting nurse associations show relatively high projections.

Table 40 shows the relative proportions of the different occupations within the nursing group. Registered nurses are the largest profession with 43.6% of the current employment opportunities. Nursing aide is the next largest with 33.6%, while licensed practical nurse is third at 15.0%. It can be seen that a greater proportion of registered nurses were reported working part-time than the other occupations. Relatively few psychiatric aides work part-time. There were proportionally more vacancies for LPN's and psychiatric aides than for RN's. Nursing aides had only 18.4% of the vacancies in comparison to 33.6% of the employment opportunities.

The projections show very little difference in the relative proportions of these occupations with the possible exception of a slight increase in the utilization of nursing aides.

EMPLOYMENT PATTERNS OF SELECTED HEALTH OCCUPATIONS IN CONNECTICUT - SEPTEMBER 1973

Table 39

Nursing

	All Facilities Surveyed	All Hospitals			Extended Care Facilities		VNAs	Clinical Labs.	Industrial Infirmaries	State (excl. Hosp.)	Other Employers (Total)
		General and VA Hospitals	Psych. Hosp.	Chronic Disease Hosp.	Nursing Homes	Rest Homes					
Full-time Employees	20,626	8,376	2,339	863	6,086	536	569	87	437	664	669
% female full-time											
Part-time employees	10,745	4,670	133	221	4,717	461	274	15	58	6	190
% female part-time											
Total number employed	31,371	13,046	2,472	1,084	10,803	997	843	102	495	670	859
Number employed-FTE	25,992.9	10,711.0	2,399.6	973.5	8,445.2	765.8	705.6	95.0	466.1	667.0	764.1
Vacancies-FTE	1,122.3	471.9	214.6	85.3	163.0	48.2	17.7	9.1	6.9	63.0	42.6
Total Employment opportunities-FTE	27,115.2	11,182.9	2,614.2	1,058.8	8,608.2	814.0	723.3	104.1	473.0	730.0	806.7
Annual Turnover rate											
Employer Perceived Projections											
1975: Method A	29,470.5	11,379.6	2,876.9	1,067.1	10,088.1	1,013.9	833.1	96.6	488.5	738.0	888.7
Method B	30,400.4	11,455.4	2,884.7	1,067.1	10,698.6	1,273.0	841.7	96.6	489.2	698.6	895.5
Method C	31,140.0	11,450.8	2,884.7	1,067.1	11,387.1	1,306.7	849.9	96.6	490.9	698.6	907.6
1980: Method A	30,420.1	11,888.0	2,883.6	1,133.8	10,280.4	974.6	929.5	105.7	514.3	748.0	962.2
Method B	32,239.2	12,193.6	2,948.8	1,170.6	11,156.6	1,226.0	954.5	105.7	518.4	985.2	979.8
Method C	33,120.2	12,222.4	2,951.4	1,170.6	11,938.3	1,256.3	971.8	105.7	522.2	985.2	996.3

Table 39 (Cont'd.)

Nursing

	Other Employers								All Hosp.	ECFs (Nursing & rest homes)	State (including State Hosp.)
	Dental Labs.	NHC & HMO	School Infirmaries	Group Practices	Phys. Therapy Groups	Vol. Health Orgs.	Local Health Depts.	Drug Clinics			
Full-time Employees	---	154	86	137	---	88	204	0	11,578	6,622	3,212
% female full-time											
Part-time employees		9	70	48		43	4	16	5,024	5,178	166
% female part-time											
Total number employed		163	156	185		131	208	16	16,602	11,800	3,378
Number employed-FTE		158.4	121.3	160.8		109.5	206.0	8.1	14,084.1	9,211.0	3,295.0
Vacancies-FTE		11.0	13.9	4.4		13.3	0	0	771.8	211.2	302.0
Total Employment opportunities-FTE		169.4	135.2	165.2		122.8	206.0	8.1	14,855.9	9,422.2	3,597.0
Annual Turnover rate											
Employer Perceived Projections											
1975: Method A		220.0	153.5	167.4		125.7	214.0	8.1	15,323.5	11,102.0	
Method B		221.3	156.0	169.2		125.7	215.2	8.1	15,407.2	11,971.6	
Method C		223.7	162.1	169.6		125.7	218.4	8.1	15,402.6	12,693.8	
1980: Method A		290.4	158.2	167.4		124.1	214.0	8.1	15,905.4	11,255.0	
Method B		293.5	167.7	170.9		124.4	215.2	8.1	16,313.0	12,382.6	
Method C		299.4	173.8	172.2		124.4	218.4	8.1	16,344.4	13,194.6	

EMPLOYMENT PATTERNS OF SELECTED HEALTH OCCUPATIONS IN CONNECTICUT - SEPTEMBER 1973

Table 40

Nursing	R.N.	%	L.P.N.	%	Nurse Aide	%	Psych. Aide	%	Correctional Attendant I	%	Total
Full-time Employees	8589	41.6	2994	14.5	7127	34.6	1888	9.2	28	.1	20,626
Part-time employees	5453	50.8	1665	15.5	3558	33.1	69	.6	0	-	10,745
Total number employed	14,042	44.8	4659	14.8	10,685	34.1	1957	6.2	28	.1	31,371
Number employed-FTE	11,315.0	43.5	3826.6	14.7	8906.4	34.3	1916.9	7.4	28.0	.1	25,992.9
Vacancies-FTE	515.4	45.9	228.2	20.3	206.6	18.4	169.1	15.1	3.0	.3	1122.3
Total Employment opportunities-FTE	11,830.4	43.6	4054.8	15.0	9113.0	33.6	2086.0	7.7	31.0	.1	27,115.2
Employer Perceived Projections											
1975: Method A	12,553.8	42.6	4339.2	14.7	10,194.6	34.6	2351.9	8.0	31.0	.1	29,470.5
Method B	12,797.1	42.1	4544.7	14.9	10,668.0	35.1	2359.6	7.8	31.0	.1	30,400.4
Method C	12,978.3	41.7	4633.3	14.9	11,137.8	35.7	2359.6	7.6	31.0	.1	31,140.0
1980: Method A	13,115.9	43.1	4473.9	14.7	10,437.0	34.3	2362.3	7.8	31.0	.1	30,420.1
Method B	13,898.3	43.1	4799.4	14.9	11,100.3	34.4	2410.2	7.5	31.0	.1	32,239.2
Method C	14,136.6	42.7	4914.6	14.8	11,627.0	35.1	2411.0	7.3	31.0	.1	33,120.2

Registered Nurse:

Registered nurses were the most widely employed group investigated in this survey. Employment opportunities for RN's were reported by every type of facility surveyed with the exception of dental laboratories and physical therapy contractors.

Of the 14,000 RN's who were reported employed, over half were employed in general and VA hospitals. Nursing homes were the next largest employer with 20%.

Almost 40% of the RN's worked part-time. Some significant variations of this were found in different types of facilities. For example, both nursing homes and rest homes employed more part-time than full-time RN's, while psychiatric hospitals, state agencies, NHC's and HMO's, and local health departments employed a much greater proportion of full-time workers. Between 98% and 99% of all those employed were female.

The vacancy rate was average at 4.3%. Psychiatric hospitals exhibited a very high vacancy rate at 15.3%. This could possibly be due, as explained in section 1, to the recent expansion of the Connecticut State Department of Mental Health. In general, there does not seem to be any overall shortage of RN's in these facilities.

The annual turnover rate was average at 20.9. A wide range of turnover rates was exhibited by the facilities with both industrial infirmaries and local health departments showing low rates, and school infirmaries, voluntary health agencies, and nursing and rest homes showing high rates.

Only moderate increases in the employment of RN's were projected by the employers: between 6.1% and 9.7% by 1975, and between 10.9% and 19.5% over current employment opportunities by 1980. However, larger increases were projected by nursing homes, rest homes, and NHC's and HMO's.

Approximately 25,230 RN's held active licenses in Connecticut in 1973. As was explained in the narration on dental hygienists, it may be assumed that the large majority of those with active licenses will be in the work force at some time during the year. It is estimated that at any given time 80%, or 20,190, of these RN;s are actively practicing their profession.

Assuming that our count of 14,040 employed in the surveyed facilities is accurate, then approximately 6,150 RN's are currently employed in private offices or other settings.

EMPLOYMENT PATTERNS OF SELECTED HEALTH OCCUPATIONS IN CONNECTICUT - SEPTEMBER 1973

Table 41

Registered Nurse

	All Facilities Surveyed	All Hospitals			Extended Care Facilities		VNAs	Clinical Labs.	Industrial Infirmaries	State (excl. Hosp.)	Other Employers (Total)
		General and VA Hospitals	Psych. Hosp.	Chronic Disease Hosp.	Nursing Homes	Rest Homes					
Full-time Employees	8,589	4,424	519	256	1,132	139	539	57	427	584	512
% female full-time	98.6	98.8	96.2	99.2	99.6	100.	99.6	100.	97.4	97.4	---
Part-time employees	5,453	3,098	71	113	1,632	143	179	15	58	6	138
% female part-time	99.7	99.8	100.	99.1	99.7	100.	100.	100.	100.	100.	---
Total number employed	14,042	7,522	590	369	2,764	282	718	72	485	590	650
Number employed-FTE	11,315.0	5,973.0	554.4	312.0	1,948.0	210.6	628.1	64.9	455.8	587.0	581.2
Vacancies-FTE	515.4	262.2	100.5	20.5	44.5	17.9	16.2	9.1	3.4	6.0	35.1
Total Employment opportunities-FTE	11,830.4	6,235.2	654.9	332.5	1,992.5	228.5	644.3	74.0	459.2	593.0	616.3
Annual Turnover rate	20.9	20.7	22.4	21.1	28.8	27.5	19.9	13.9	7.7	11.3	
Employer Perceived Projections											
1975: Method A	12,553.8	6,365.6	675.4	331.8	2,370.2	301.7	713.8	66.4	478.2	590.0	660.7
Method B	12,797.1	6,409.6	675.8	331.8	2,526.0	368.4	721.1	66.4	479.9	550.6	667.5
Method C	12,978.3	6,410.9	675.8	331.8	2,683.2	375.6	728.9	66.4	481.6	550.6	673.5
1980: Method A	13,115.9	6,670.5	693.2	350.9	2,444.2	294.5	781.0	75.5	504.0	600.0	702.1
Method B	13,898.3	6,855.2	709.8	358.6	2,673.6	356.3	803.3	75.5	509.1	837.2	719.7
Method C	14,136.6	6,872.3	711.6	358.6	2,856.3	362.7	819.4	75.5	512.9	837.2	730.1

Table 41 (Cont'd.) Registered Nurse	Other Employers								All Hosp.	ECFs (Nursing & rest homes)	State (including State Hosp.)
	Dental Labs.	NHC & HMO	School Infirmaries	Group Practices	Phys. Therapy Groups	Vol. Health Orgs.	Local Health Depts.	Drug Clinics			
Full-time Employees	---	88	77	66	---	77	204	0	5,199	1,271	1,221
% female full-time		100	100	100		100	100	---			
Part-time employees		7	49	22		40	4	16	3,282	1,775	127
% female part-time		100	100	100		100	100	100			
Total number employed		95	126	88		117	208	16	8,481	3,046	1,348
Number employed-FTE		91.3	101.3	77		97.5	206	8.1	6,839.4	2,158.6	1,284.5
Vacancies-FTE		11.0	10.8	0		13.3	0	0	383.2	62.4	113.5
Total Employment opportunities-FTE		102.3	112.1	77		110.8	206	8.1	7,222.6	2,221.0	1,398.0
Annual Turnover rate		15.0	34.6	0		30.1	3.0				
Employer Perceived Projections											
1975: Method A		127.6	119.7	79.2		112.1	214.0	8.1	7,372.8	2,671.9	
Method B		128.9	122.2	81.0		112.1	215.2	8.1	7,417.2	2,894.4	
Method C		131.3	122.2	81.4		112.1	218.4	8.1	7,418.5	3,058.8	
1980: Method A		162.8	125.9	79.2		112.1	214.0	8.1	7,714.6	2,738.7	
Method B		165.9	135.4	82.7		112.4	215.2	8.1	7,923.6	3,029.9	
Method C		171.8	135.4	84.0		112.4	218.4	8.1	7,942.5	3,219.5	

Licensed Practical Nurse:

LPN's, as with RN's, were reported employed in a large variety of settings including all the surveyed facilities except state agencies (excluding hospitals), dental labs, physical therapy groups, local health departments and drug clinics. A total of 4,659 were reported employed. General and VA hospitals were the largest employer; nursing homes were the second largest.

Approximately one-third of those reported worked part-time. With few exceptions similar to those noted with RN's, this pattern was repeated throughout the different types of facilities. Between 98% and 99% of those employed were female.

The vacancy rate was slightly above average at 5.6%. Chronic disease hospitals showed an exceptionally high rate of 14.5%. Since the rate for all state hospitals was high, 10.0%, while the other facilities were consistantly average, it is possible that most of these vacancies are in the state chronic disease hospitals rather than private. This would imply that this vacancy rate is due to more specific employment conditions, possibly frozen positions, than an actual shortage of LPN's.

The annual turnover rate was slightly higher than average at 26.3. Wide variations were exhibited in this rate among the different types of facilities, but some of the more noteworthy cases, e.g., NHC's and HMO's, and MD group practices, are of questionable value due to the small size of the sample.

Slightly lower than average increases were projected: between 7.0% and 14.3% by 1975, and between 10.3% and 21.2% by 1980. Rest homes projected sharp increases: between 36% and 109% over current employment opportunities. Other facilities showed only moderate increases.

In 1973, 6,441 LPN's held active licenses in Connecticut. It is estimated that 90% of these were actively practicing at any given time, i.e., approximately 5,800. With roughly 4,660 reported employed in facilities, it may be assumed that 1,140 LPN's were employed in private offices or other employment settings.

Nursing Aides:

Employment opportunities for nursing aides were found in a large variety of settings. Nursing homes were the largest employer with 61% of the 10,685 employed; general and VA hospitals were the second largest employers with 27%. The remainder was found throughout eight other types of facilities.

One-third of those employed worked part-time. A slightly higher proportion of part-time workers was found in nursing and rest homes; VNA's showed 90% working part-time. Between 92% and 95% of all those employed were female.

The vacancy rate was low at 2.3%. Since the hospitals and some of the larger nursing homes train their own nursing aides as needed, it is unlikely that a much higher vacancy rate or shortage of these personnel will be exhibited, at least by these facilities.

The annual turnover rate was high at 30.4. The highest rate, 35.9, was found in nursing homes.

The projections as perceived by the employer showed slightly higher than average increases: between 11.9% and 22.2% by 1975, between 14.5% and 27.6% by 1980.

Pscyhiatric Aides:

As expected, the employment opportunities for psychiatric aides are more limited than for the other nursing personnel. Of the 1,957 employed at the time of the survey, 93% were employed in psychiatric hospitals; the rest were employed in either general and VA hospitals, nursing homes, or state agencies excluding hospitals. The state, including hospitals, was the largest single employer of this occupation with 82%.

The large majority of psychiatric aides worked full-time. Of the full-time workers, 64.5% were female, while 59.3% of the part-time workers were female.

The vacancy rate was higher than average at 8.1%. However, one-third of the total vacancies were reported by state agencies, excluding state hospitals, giving this category a vacancy rate of 51%. Therefore, this high rate again appears to be due more to recent expansion than any shortage.

The annual turnover rate, 15.5, was lower than average.

Moderate to average increases were projected: between 12.7% and 13.1% for 1975 and between 13.2% and 15.6% by 1980.

Correctional Attendant I:

These were employed solely by the state in the corrections facilities. At the time of the survey, 28 were employed, all of them full-time. Only one was female.

Three vacancies were reported. The turnover rate was unknown. Possibly due to the inability of the state agencies to make projections dependent upon budget changes, no increases were projected.

EMPLOYMENT PATTERNS OF SELECTED HEALTH OCCUPATIONS IN CONNECTICUT - SEPTEMBER 1973

Table 42

Licensed Practical Nurse

	All Facilities Surveyed	All Hospitals			Extended Care Facilities		VNAs	Clinical Labs.	Industrial Infirmaries	State (excl. Hosp.)	Other Employers (Total)
		General and VA Hospitals	Psych. Hosp.	Chronic Disease Hosp.	Nursing Homes	Rest Homes					
Full-time Employees	2,994	1,747	54	163	796	79	22	18	10	---	105
% female full-time	98.2	98.6	84.3	98.7	98.9	94.1	100	100	66.7		
Part-time employees	1,665	821	2	39	677	86	8	0	0		32
% female part-time	99.3	99.2	100	100	99.4	100	100	---	---		
Total number employed	4,659	2,568	56	202	1,473	165	30	18	10		137
Number employed-FTE	3,826.6	2,157.5	55.4	182.9	1,134.0	121.4	26.1	18.1	10.3		120.9
Vacancies-FTE	228.2	114.6	1.0	30.9	66.7	7.1	0	0	3.5		4.4
Total Employment opportunities-FTE	4,054.8	2,272.1	56.4	213.8	1,200.7	128.5	26.1	18.1	13.8		125.3
Annual Turnover rate	26.3	28.3	11.4	23.3	23.0	15.6	13.3	0	0		
Employer Perceived Projections											
1975: Method A	4,339.2	2,322.9	83.6	212.2	1,336.1	191.0	30.0	18.1	10.3		135.0
Method B	4,544.7	2,348.6	88.9	212.2	1,444.5	257.4	30.7	18.1	9.3		135.0
Method C	4,633.3	2,342.6	88.9	212.2	1,522.6	273.5	31.1	18.1	9.3		135.0
1980: Method A	4,473.9	2,428.4	78.8	227.0	1,356.4	174.9	37.1	18.1	10.3		142.9
Method B	4,799.4	2,506.3	90.4	233.7	1,507.4	252.4	38.9	18.1	9.3		142.9
Method C	4,914.6	2,515.4	90.4	233.7	1,596.9	267.8	40.1	18.1	9.3		142.9

Table 42 (Cont'd.) Licensed Practical Nurse	Other Employers								All Hosp.	ECFs (Nursing & rest homes)	State (including State Hosp.)
	Dental Labs.	NHC & HMO	School Infirmaries	Group Practices	Phys. Therapy Groups	Vol. Health Orgs.	Local Health Depts.	Drug Clinics			
Full-time Employees	---	26	6	62	---	11	---	---	1,964	875	161
% female full-time		100	100	100		100					
Part-time employees		0	3	26		3			862	763	12
% female part-time		---	100	100		100					
Total number employed		26	9	88		14			2,826	1,638	173
Number employed-FTE		26.4	7.7	74.8		12.0			2,395.8	1,255.4	167.0
Vacancies-FTE		0	0	4.4		0			146.5	73.8	18.5
Total Employment opportunities-FTE		26.4	7.7	79.2		12.0			2,542.3	1,329.2	185.5
Annual Turnover rate		33.3	0	41.6		0					
Employer Perceived Projections											
1975: Method A		33.0	9.2	79.2		13.6			2,618.7	1,527.1	
Method B		33.0	9.2	79.2		13.6			2,649.7	1,701.9	
Method C		33.0	9.2	79.2		13.6			2,643.7	1,796.1	
1980: Method A		44.0	7.7	79.2		12.0			2,734.2	1,531.3	
Method B		44.0	7.7	79.2		12.0			2,830.4	1,759.8	
Method C		44.0	7.7	79.2		12.0			2,839.5	1,864.7	

EMPLOYMENT PATTERNS OF SELECTED HEALTH OCCUPATIONS IN CONNECTICUT - SEPTEMBER 1973

Table 43

Nursing Aide

	All Facilities Surveyed	All Hospitals			Extended Care Facilities		VNAs	Clinical Labs.	Industrial Infirmaries	State (excl. Hosp.)	Other Employers (Total)
		General and VA Hospitals	Psych. Hosp.	Chronic Disease Hosp.	Nursing Homes	Rest Homes					
Full-time Employees	7,127	2,131	11	444	4,151	318	8	12	---	---	52
% female full-time	92.7	90.8	18.1	88.5	98.8	95.2	100	100			
Part-time employees	3,558	746	3	69	2,401	232	87	0			20
% female part-time	94.6	91.7	33.3	81.5	99.6	94.4	100	---			
Total number employed	10,685	2,877	14	513	6,552	550	95	12			72
Number employed-FTE	8,906.4	2,504.0	12.5	478.6	5,352.1	433.8	51.4	12.0			62
Vacancies-FTE	206.6	93.1	0	33.9	51.8	23.2	1.5	0			3.1
Total Employment opportunities-FTE	9,113.0	2,597.1	12.5	512.5	5,403.9	457.0	52.9	12.0			65.1
Annual Turnover rate	30.4	29.2	0	29.3	35.9	12.7	7.0	25.0			
Employer Perceived Projections											
1975: Method A	10,194.6	2,598.6	12.5	523.1	6,344.8	521.2	89.3	12.1			93.0
Method B	10,668.0	2,599.1	12.5	523.1	6,691.1	647.2	89.9	12.1			93.0
Method C	11,137.8	2,598.2	12.5	523.1	7,144.3	657.6	89.9	12.1			99.1
1980: Method A	10,437.0	2,683.6	12.5	555.9	6,439.1	505.2	111.4	12.1			117.2
Method B	11,100.3	2,715.7	12.5	578.3	6,934.9	617.3	112.3	12.1			117.2
Method C	11,627.0	2,718.3	12.5	578.3	7,444.4	625.8	112.3	12.1			123.3

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Table 43(Cont'd.) Nursing Aide	Other Employers								All Hosp.	ECFs (Nursing & rest homes)	State (including State Hosp.)
	Dental Labs.	NHC & HMO	School Infirmaries	Group Practices	Phys. Therapy Groups	Vol. Health Orgs.	Local Health Depts.	Drug Clinics			
Full-time Employees	---	40	3	9	---	---	---	---	2,586	4,469	225
% female full-time		100	100	100							
Part-time employees		2	18	0					818	2,633	3
% female part-time		100	100	---							
Total number employed		42	21	9					3,404	7,102	228
Number employed-FTE		40.7	12.3	9.0					2,995.1	5,785.9	226.5
Vacancies-FTE		0	3.1	0					127.0	75.0	19.0
Total Employment opportunities-FTE		40.7	15.4	9.0					3,122.1	5,860.9	245.5
Annual Turnover rate		21.6	0	0							
Employer Perceived Projections											
1975: Method A		59.4	24.6	9.0					3,134.2	6,866.0	
Method B		59.4	24.6	9.0					3,134.7	7,338.3	
Method C		59.4	30.7	9.0					3,134.8	7,801.9	
1980: Method A		83.6	24.6	9.0					3,252.0	6,944.3	
Method B		83.6	24.6	9.0					3,306.5	7,552.2	
Method C		83.6	30.7	9.0					3,309.1	8,070.2	

EMPLOYMENT PATTERNS OF SELECTED HEALTH OCCUPATIONS IN CONNECTICUT - SEPTEMBER 1973

Table 44

Psychiatric Aide

	All Facilities Surveyed	All Hospitals			Extended Care Facilities		VNAs	Clinical Labs.	Industrial Infirmaries	State (excl. Hosp.)	Other Employers (Total)
		General and VA Hospitals	Psych. Hosp.	Chronic Disease Hosp.	Nursing Homes	Rest Homes					
Full-time Employees	1,888	74	1,755	---	7	---	---	---	---	52	---
% female full-time	64.5	48.6	66.9		50					7.6	
Part-time employees	69	5	57		7					0	
% female part-time	59.3	60.0	57.7		100					---	
Total number employed	1,957	79	1,812		14					52	
Number employed-FTE	1,916.9	76.5	1,777.3		11.1					52.0	
Vacancies-FTE	169.1	2.0	113.1		0					54.0	
Total Employment opportunities-FTE	2,086.0	78.5	1,890.4		11.1					106.0	
Annual Turnover rate	15.5	12.7	15.5		33.3					17.3	
Employer Perceived Projections											
1975: Method A	2,351.9	92.5	2,105.4		37.0					117.0	
Method B	2,359.6	98.1	2,107.5		37.0					117.0	
Method C	2,359.6	98.1	2,107.5		37.0					117.0	
1980: Method A	2,362.3	105.5	2,099.1		40.7					117.0	
Method B	2,410.2	116.4	2,136.1		40.7					117.0	
Method C	2,411.0	116.4	2,136.9		40.7					117.0	

Table 44 (Cont'd.) Psychiatric Aide	Other Employers								All Hosp.	ECFs (Nursing & rest homes)	State (including State Hosp.)
	Dental Labs.	NHC & HMO	School Infirmaries	Group Practices	Phys. Therapy Groups	Vol. Health Orgs.	Local Health Depts.	Drug Clinics			
Full-time Employees	---	---	---	---	---	---	---	---	1,829	7	1,577
% female full-time											
Part-time employees									62	7	24
% female part-time											
Total number employed									1,891	14	1,601
Number employed-FTE									1,853.8	11.1	1,589.0
Vacancies-FTE									115.1	0	148.0
Total Employment opportunities-FTE									1,968.9	11.1	1,737.0
Annual Turnover rate											
Employer Perceived Projections											
1975: Method A									2,197.9	37.0	
Method B									2,205.6	37.0	
Method C									2,205.6	37.0	
1980: Method A									2,204.6	40.7	
Method B									2,252.5	40.7	
Method C									2,253.3	40.7	

EMPLOYMENT PATTERNS OF SELECTED HEALTH OCCUPATIONS IN CONNECTICUT - SEPTEMBER 1973

Table 45

Correctional Attendant I

	All Facilities Surveyed	All Hospitals			Extended Care Facilities		VNAs	Clinical Labs.	Industrial Infirmaries	State (excl. Hosp.)	Other Employers (Total)
		General and VA Hospitals	Psych. Hosp.	Chronic Disease Hosp.	Nursing Homes	Rest Homes					
Full-time Employees	28	---	---	---	---	---	---	---	---	28	---
% female full-time	3.5									3.5	
Part-time employees	0									0	
% female part-time	---									---	
Total number employed	28									28	
Number employed-FTE	28.0									28.0	
Vacancies-FTE	3.0									3.0	
Total Employment opportunities-FTE	31.0									31.0	
Annual Turnover rate	dk									dk	
Employer Perceived Projections											
1975: Method A	31.0									31.0	
Method B	31.0									31.0	
Method C	31.0									31.0	
1980: Method A	31.0									31.0	
Method B	31.0									31.0	
Method C	31.0									31.0	

Table 45 (Cont'd.) Correctional Attendant I	Other Employers								All Hosp.	ECFs (Nursing & rest homes)	State (including State Hosp.)
	Dental Labs.	NHC & HMO	School Infirmaries	Group Practices	Phys. Therapy Groups	Vol. Health Orgs.	Local Health Depts.	Drug Clinics			
Full-time Employees	---	---	---	---	---	---	---	---	---	---	28
% female full-time											
Part-time employees											0
% female part-time											
Total number employed											28
Number employed-FTE											28.0
Vacancies-FTE											3.0
Total Employment opportunities-FTE											31.0
Annual Turnover rate											
Employer Perceived Projections											
1975: Method A											
Method B											
Method C											
1980: Method A											
Method B											
Method C											

Nurse Professional Extenders:

Data for four specialized categories of RN's, all of whom act in the role of professional extenders, are also presented: Pediatric nurse associate, adult medicine ambulatory care nurse practitioner, nurse midwife, and nurse anesthetist. As these professions are relatively new and still expanding, some of the data in the individual categories are not large enough to establish any significant patterns or trends. However, certain trends become evident when these data are combined (tables 46 and 47).

A total of 274 people was employed in these professions. General and VA hospitals and MD group practices were the largest employers. Employment opportunities were also reported in psychiatric hospitals, nursing homes, visiting nurse associations, and NHC's and HMO's.

Only 16% worked part-time. There was a relatively high number of vacancies, 28.3, giving a vacancy rate of 10.1%.

The projections as perceived by the employers show slightly greater than average increases for 1975 and much larger than average increases for 1980: between 14.5% and 17.5% for 1975, and between 38.7% and 48.6% over current employment opportunities by 1980.

Table 47 indicates the relative proportions of these professions. Nurse anesthetist is by far the largest, with 77.4% of the current employment opportunities. Pediatric nurse associate and adult nurse practitioner are about equal in size, with 10.3% and 10.0% respectively; nurse midwife is the smallest group with 2.3%.

The majority of the vacancies, 60.8%, is for nurse anesthetists; 35.7% are for pediatric nurse associates.

Although nurse anesthetists will still dominate the field in 1980, the projections indicate a marked increase in the proportions of employment opportunities for pediatric nurse associates, adult nurse practitioners, and nurse midwives, with a corresponding decrease in the proportion of nurse anesthetists.

Combined with current employment patterns and the relatively high vacancy rates, the data indicate that, although relatively few are currently employed, the surveyed facilities anticipate utilizing these professions to a much greater extent in the future, especially pediatric nurse associates, adult nurse practitioners, and nurse midwives. This could reflect the current trends toward ambulatory care and away from the physician as the major source of primary care.

These data do not take into account the employment possibilities for these occupations in private offices. It is possible that with the greater utilization of these professions in facilities will come greater utilization in other employment settings. This could result in an additional substantial increase in the demand for these occupations.

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EMPLOYMENT PATTERNS OF SELECTED HEALTH OCCUPATIONS IN CONNECTICUT - SEPTEMBER 1973

Table 46

NURSE PROFESSIONAL EXTENDERS

	All Facilities Surveyed	All Hospitals			Extended Care Facilities		VNAs	Clinical Labs.	Industrial Infirmaries	State (excl. Hosp.)	Other Employers (Total)
		General and VA Hospitals	Psych. Hosp.	Chronic Disease Hosp.	Nursing Homes	Rest Homes					
Full-time Employees	230	108	1	-	0	-	0	-	-	-	121
% female full-time											
Part-time employees	44	21	0		4		0				19
% female part-time											
Total number employed	274	129	1		4		0				140
Number employed-FTE	252.3	118.5	1.0		1.9		0				130.9
Vacancies-FTE	28.3	4.0	1.0		0		1.3				22.0
Total Employment opportunities-FTE	280.6	122.5	2.0		1.9		1.3				152.9
Annual Turnover rate											
Employer Perceived Projections											
1975: Method A	321.5	135.0	3.2		1.9		3.2				178.2
Method B	329.4	141.8	3.2		1.9		3.2				179.3
Method C	329.8	142.0	3.2		1.9		3.2				179.5
1980: Method A	389.3	155.0	3.2		1.9		4.8				224.4
Method B	412.4	175.9	3.2		1.9		4.8				226.6
Method C	416.9	179.5	3.2		1.9		4.8				227.5

Table 46 (Cont'd.)

NURSE PROFESSIONAL EXTENDERS

	Other Employers									
	Dental Labs.	NHC & HMO	School Infirmaries	Group Practices	Phys. Therapy Groups	Vol. Health Orgs.	Local Health Depts.	Drug Clinics	All Hosp.	ECFs (Nursing & rest homes)	State (including State Hosp.)
Full-time Employees	-	29	-	92	-	-	-	-	109	0	4
% female full-time											
Part-time employees		2		17					21	4	2
% female part-time											
Total number employed		31		109					130	4	6
Number employed-FTE		29.7		101.2					119.5	1.9	5.0
Vacancies-FTE		4.4		17.6					5.0	0	1.0
Total Employment opportunities-FTE		34.1		118.8					124.5	1.9	6.0
Annual Turnover rate											
Employer Perceived Projections											
1975: Method A		46.2		132.0					138.2	1.9	
Method B		47.3		132.0					145.0	1.9	
Method C		47.5		132.0					145.2	1.9	
1980: Method A		57.2		167.2					158.2	1.9	
Method B		59.4		167.2					179.1	1.9	
Method C		60.3		167.2					182.7	1.9	

EMPLOYMENT PATTERNS OF SELECTED HEALTH OCCUPATIONS IN CONNECTICUT - SEPTEMBER 1973

Table 47
NURSE PROFESSIONAL EXTENDERS

	Pediatric Nurse Associate	%	Adult Nurse Practitioner	%	Nurse Midwife	%	Nurse Anesthetist	%	Total
Full-time Employees	15	6.5	24	10.4	5	2.2	186	80.9	230
Part-time employees	8	18.2	7	15.9	2	4.5	27	61.4	44
Total number employed	23	8.4	31	11.3	7	2.5	213	77.7	274
Number employed-FTE	18.8	7.4	27.0	10.7	6.5	2.6	200.0	79.3	252.3
Vacancies-FTE	10.1	35.7	1.0	3.5	0	--	17.2	60.8	28.3
Total Employment opportunities-FTE	28.9	10.3	28.0	10.0	6.5	2.3	217.2	77.4	280.6
Employer Perceived Projections									
1975: Method A	40.0	12.5	34.8	10.8	13.0	4.0	233.7	72.7	321.5
Method B	42.3	12.8	38.2	11.6	13.0	4.0	235.9	71.6	329.4
Method C	42.3	12.8	38.4	11.6	13.0	4.0	236.1	71.6	329.8
1980: Method A	48.4	12.4	47.8	12.3	17.2	4.4	275.9	70.9	389.3
Method B	54.8	13.3	59.2	14.3	17.2	4.2	281.2	68.2	412.4
Method C	57.6	13.8	60.1	14.4	17.2	4.1	282.0	67.7	416.9

Pediatric Nurse Associate:

Twenty-three pediatric nurse associates were employed at the time of the survey. Twelve were employed in general and VA hospitals, seven in NHC's and HMO's, and four in MD group practices. Visiting nurse associations did not employ any at the time of the survey, however they reported 1.3 FTE vacancies. Psychiatric hospitals also reported none currently employed, however they did project employment opportunities for this profession by 1975.

Eight of the 23 worked part-time, 15 full-time. All of those reported were female. At the time of the survey 10.1 vacancies were reported, giving a vacancy rate of 35.0%. These vacancies were found in VNA's, NHC's and HMO's, and MD group practices. The annual turnover rate was 11.1.

The projections as perceived by the employer showed large increases: between 38.4% and 46.4% by 1975, and between 67.5% and 99.3% over current employment opportunities by 1980.

Adult Nurse Practitioner:

Adult nurse practitioners were employed in general and VA hospitals, nursing homes and NHC's and HMO's. VNA's project some employment opportunities for this occupation by 1975.

Of the 31 employed, seven worked part-time, 24 full-time. One hundred percent were female. One vacancy was reported. The annual turnover rate was zero.

Large increases in employment opportunities were projected for this occupation: between 24.3% and 37.1% by 1975, and between 70.7% and 114.6% over current employment opportunities by 1980.

Nurse Midwife:

At the time of the survey, seven nurse midwives were employed: one in a general hospital, six in NHC's and HMO's. Five worked full-time, two part-time. All seven were female.

No vacancies were reported. The annual turnover rate was zero.

Projections showed a small increase numerically, but a relatively large increase proportionally, from the current 6.5 FTE's to 13.0 in 1975 and 17.2 in 1980.

Nurse Anesthetist:

Nurse anesthetist was the largest profession of the group with 213 employed at the time of the survey. Approximately half of those employed were reported in general and VA hospitals, approximately half in MD group practices, with one employed in a psychiatric hospital.

Twenty-seven worked part-time. Of the part-time workers, 78% were female; 88% of the full-time workers were female.

The vacancy rate was slightly higher than average at 7.9%. The annual turnover rate was 13.7.

The projections show lower than average increases for 1975, between 7.6% and 8.7%, but higher than average projections for 1980, between 27.0% and 29.8% over current employment opportunities.

EMPLOYMENT PATTERNS OF SELECTED HEALTH OCCUPATIONS IN CONNECTICUT - SEPTEMBER 1973

Table 48

PEDIATRIC NURSE ASSOCIATE

	All Facilities Surveyed	All Hospitals			Extended Care Facilities		VNAs	Clinical Labs.	Industrial Infirmaries	State (excl. Hosp.)	Other Employers (Total)
		General and VA Hospitals	Psych. Hosp.	Chronic Disease Hosp.	Nursing Homes	Rest Homes					
Full-time Employees	15	8	0	-	-	-	0	-	-	-	7
% female full-time	100	100	-				-				
Part-time employees	8	4	0				0				4
% female part-time	100	100	-				-				
Total number employed	23	12	0				0				11
Number employed-FTE	18.8	10.0	0				0				8.8
Vacancies-FTE	10.1	-	0				1.3				8.8
Total Employment opportunities-FTE	28.9	10.0	0				1.3				17.6
Annual Turnover rate	11.1	0	0				0				
Employer Perceived Projections											
1975: Method A	40.0	13.0	1.2				1.6				24.2
Method B	42.3	14.2	1.2				1.6				25.3
Method C	42.3	14.2	1.2				1.6				25.3
1980: Method A	48.4	17.0	1.2				1.6				28.6
Method B	54.8	21.2	1.2				1.6				30.8
Method C	57.6	24.0	1.2				1.6				30.8

Table 48 (Cont'd.)

PEDIATRIC NURSE ASSOCIATE

	Other Employers										
	Dental Labs.	NHC & HMO	School Infirmaries	Group Practices	Phys. Therapy Groups	Vol. Health Orgs.	Local Health Depts.	Drug Clinics	All Hosp.	ECFs (Nursing & rest homes)	State (including State Hosp.)
Full-time Employees	-	7	-	0	-	-	-	-	8	-	1
% female full-time		100		-							
Part-time employees		0		4					4		2
% female part-time		-		100							
Total number employed		7		4					12		3
Number employed-FTE		6.6		2.2					10.0		2.0
Vacancies-FTE		4.4		4.4					0		0
Total Employment opportunities-FTE		11.0		6.6					10.0		2.0
Annual Turnover rate		33.3		0							
Employer Perceived Projections											
1975: Method A		15.4		8.8					14.2		
Method B		16.5		8.8					15.4		
Method C		16.5		8.8					15.4		
1980: Method A		19.8		8.8					18.2		
Method B		22.0		8.8					22.4		
Method C		22.0		8.8					25.2		

EMPLOYMENT PATTERNS OF SELECTED HEALTH OCCUPATIONS IN CONNECTICUT - SEPTEMBER 1973

Table 49

ADULT NURSE PRACTITIONER

	All Facilities Surveyed	All Hospitals			Extended Care Facilities		VNAs	Clinical Labs.	Industrial Infirmaries	State (excl. Hosp.)	Other Employers (Total)
		General and VA Hospitals	Psych. Hosp.	Chronic Disease Hosp.	Nursing Homes	Rest Homes					
Full-time Employees	24	6	-	-	0	-	0	-	-	-	18
% female full-time	100	100			-		-				
Part-time employees	7	3			4		0				0
% female part-time	100	100			100		-				
Total number employed	31	9			4		0				18
Number employed-FTE	27.0	7.5			1.9		0				17.6
Vacancies-FTE	1.0	1.0			0		0				0
Total Employment opportunities-FTE	28.0	8.5			1.9		0				17.6
Annual Turnover rate	0	0			0		0				
Employer Perceived Projections											
1975: Method A	34.8	11.5			1.9		1.6				19.8
Method B	38.2	14.9			1.9		1.6				19.8
Method C	38.4	14.9			1.9		1.6				20.0
1980: Method A	47.8	18.5			1.9		3.2				24.2
Method B	59.2	29.9			1.9		3.2				24.2
Method C	60.1	29.9			1.9		3.2				25.1

Table 49 (Cont'd.)

ADULT NURSE PRACTITIONER

	Other Employers										
	Dental Labs.	NHC & HMO	School Infirmaries	Group Practices	Phys. Therapy Groups	Vol. Health Orgs.	Local Health Depts.	Drug Clinics	All Hosp.	ECFs (Nursing & rest homes)	State (including State Hosp.)
Full-time Employees	-	18	-	-	-	-	-	-	6	0	-
% female full-time		100									
Part-time employees		0							3	4	
% female part-time		-									
Total number employed		18							9	4	
Number employed-FTE		17.6							7.5	1.9	
Vacancies-FTE		0							1.0	0	
Total Employment opportunities-FTE		17.6							8.5	1.9	
Annual Turnover rate		0									
Employer Perceived Projections											
1975: Method A		19.8							11.5	1.9	
Method B		19.8							14.9	1.9	
Method C		20.0							14.9	1.9	
1980: Method A		24.2							18.5	1.9	
Method B		24.2							29.9	1.9	
Method C		25.1							29.9	1.9	

EMPLOYMENT PATTERNS OF SELECTED HEALTH OCCUPATIONS IN CONNECTICUT - SEPTEMBER 1973

Table 50

NURSE MIDWIFE

	All Facilities Surveyed	All Hospitals			Extended Care Facilities		VNAs	Clinical Labs.	Industrial Infirmaries	State (excl. Hosp.)	Other Employers (Total)
		General and VA Hospitals	Psych. Hosp.	Chronic Disease Hosp.	Nursing Homes	Rest Homes					
Full-time Employees	5	1	-	-	-	-	-	-	-	-	4
% female full-time	100	100									
Part-time employees	2	0									2
% female part-time	100	-									
Total number employed	7	1									6
Number employed-FTE	6.5	1.0									5.5
Vacancies-FTE	0	0									0
Total Employment opportunities-FTE	6.5	1.0									5.5
Annual Turnover rate	0	0									
Employer Perceived Projections											
1975: Method A	13.0	2.0									11.0
Method B	13.0	2.0									11.0
Method C	13.0	2.0									11.0
1980: Method A	17.2	4.0									13.2
Method B	17.2	4.0									13.2
Method C	17.2	4.0									13.2

Table 50 (Cont'd.)

NURSE MIDWIFE

	Other Employers										
	Dental Labs.	NHC & HMO	School Infirmaries	Group Practices	Phys. Therapy Groups	Vol. Health Orgs.	Local Health Depts.	Drug Clinics	All Hosp.	ECFs (Nursing & rest homes)	State (including State Hosp.)
Full-time Employees	-	4	-	-	-	-	-	-	1	-	-
% female full-time		100									
Part-time employees		2							0		
% female part-time		100									
Total number employed		6							1		
Number employed-FTE		5.5							1.0		
Vacancies-FTE		0							0		
Total Employment opportunities-FTE		5.5							1.0		
Annual Turnover rate		0									
Employer Perceived Projections											
1975: Method A		11.0							2.0		
Method B		11.0							2.0		
Method C		11.0							2.0		
1980: Method A		13.2							4.0		
Method B		13.2							4.0		
Method C		13.2							4.0		

EMPLOYMENT PATTERNS OF SELECTED HEALTH OCCUPATIONS IN CONNECTICUT - SEPTEMBER 1973

Table 51

NURSE ANESTHETIST

	All Facilities Surveyed	All Hospitals			Extended Care Facilities		VNAs	Clinical Labs.	Industrial Infirmaries	State (excl. Hosp.)	Other Employers (Total)
		General and VA Hospitals	Psych. Hosp.	Chronic Disease Hosp.	Nursing Homes	Rest Homes					
Full-time Employees	186	93	1	-	-	-	-	-	-	-	92
% female full-time	78.2	73.1	100								
Part-time employees	27	14	0								13
% female part-time	88.2	85.7	-								
Total number employed	213	107	1								105
Number employed-FTE	200.0	100.0	1.0								99.0
Vacancies-FTE	17.2	3.0	1.0								13.2
Total Employment opportunities-FTE	217.2	103.0	2.0								112.2
Annual Turnover rate	13.7	11.6	0								
Employer Perceived Projections											
1975: Method A	233.7	108.5	2.0								123.2
Method B	235.9	110.7	2.0								123.2
Method C	236.1	110.9	2.0								123.2
1980: Method A	275.9	115.5	2.0								158.4
Method B	281.2	120.8	2.0								158.4
Method C	282.0	121.6	2.0								158.4

Table 51 (Cont'd.)

NURSE ANESTHETIST

	Other Employers								All Hosp.	ECFs (Nursing & rest homes)	State (including State Hosp.)
	Dental Labs.	NHC & HMO	School Infirmaries	Group Practices	Phys. Therapy Groups	Vol. Health Orgs.	Local Health Depts.	Drug Clinics			
Full-time Employees	-	-	-	92	-	-	-	-	94	-	3
% female full-time				100							
Part-time employees				13					14		0
% female part-time				100							
Total number employed				105					108		3
Number employed-FTE				99.0					101.0		3.0
Vacancies-FTE				13.2					4.0		1.0
Total Employment opportunities-FTE				112.2					105.0		4.0
Annual Turnover rate				17.7							
Employer Perceived Projections											
1975: Method A				123.2					110.5		
Method B				123.2					112.7		
Method C				123.2					112.9		
1980: Method A				158.4					117.5		
Method B				158.4					122.8		
Method C				158.4					123.6		

10. Physician Assistants: (tables 52 - 57)

Two categories of physician assistants were studied in this survey, physician assistant in pathology and physician associate.

Only 45 in both categories combined were reported employed at the time of the survey. Employment opportunities were reported in general and VA hospitals, industrial infirmaries, NHC's and HMO's, MD group practices, and voluntary health organizations. Some employment opportunities for these categories were projected by 1975 in psychiatric hospitals.

Twenty-seven out of the 45 worked part-time. Only one vacancy was reported at the time of the survey.

Large increases in the utilization of these personnel were projected for both 1975 and 1980: between 49.4% and 50.6% by 1975, and between 93.4% and 116.2% over current employment opportunities by 1980.

Table 53 illustrates the relative proportions of these two occupations. The physician associate holds 88% of the current employment opportunities for these two professions. However, the projections indicate that this percentage might increase slightly to 89.2% by 1980, with a corresponding drop in the proportion of PA's in pathology.

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EMPLOYMENT PATTERNS OF SELECTED HEALTH OCCUPATIONS IN CONNECTICUT - SEPTEMBER 1973

Table 52

PHYSICIAN ASSISTANTS

	All Facilities Surveyed	All Hospitals			Extended Care Facilities		VNAs	Clinical Labs.	Industrial Infirmaries	State (excl. Hosp.)	Other Employers (Total)
		General and VA Hospitals	Psych. Hosp.	Chronic Disease Hosp.	Nursing Homes	Rest Homes					
Full-time Employees	18	6	0	-	-	-	-	-	10	-	2
% female full-time											
Part-time employees	27	2	0						0		25
% female part-time											
Total number employed	45	8	0						10		27
Number employed-FTE	32.4	7.0	0						10.3		15.1
Vacancies-FTE	1.0	1.0	0						0		0
Total Employment opportunities-FTE	33.4	8.0	0						10.3		15.1
Annual Turnover rate											
Employer Perceived Projections											
1975: Method A	49.9	14.0	3.0						10.3		22.6
Method B	50.3	14.4	3.0						10.3		22.6
Method C	50.3	14.4	3.0						10.3		22.6
1980: Method A	64.6	23.0	3.0						13.8		24.8
Method B	65.4	23.8	3.0						13.8		24.8
Method C	72.2	23.8	3.0						20.6		24.8

Table 52 (Cont'd.) PHYSICIAN ASSISTANTS	Other Employers								All Hosp.	ECFs (Nursing & rest homes)	State (including State Hosp.)
	Dental Labs.	NHC & HMO	School Infirmaries	Group Practices	Phys. Therapy Groups	Vol. Health Orgs.	Local Health Depts.	Drug Clinics			
Full-time Employees	-	2	-	0	-	0	-	-	6	-	-
% female full-time											
Part-time employees		0		4		21			2		
% female part-time											
Total number employed		2		4		21			8		
Number employed-FTE		2.2		2.2		10.7			7.0		
Vacancies-FTE		0		0		0			1.0		
Total Employment opportunities-FTE		2.2		2.2		10.7			8.0		
Annual Turnover rate											
Employer Perceived Projections											
1975: Method A		4.4		2.2		16.0			17.0		
Method B		4.4		2.2		16.0			17.4		
Method C		4.4		2.2		16.0			17.4		
1980: Method A		6.6		2.2		16.0			26.0		
Method B		6.6		2.2		16.0			26.8		
Method C		6.6		2.2		16.0			26.8		

EMPLOYMENT PATTERNS OF SELECTED HEALTH OCCUPATIONS IN CONNECTICUT - SEPTEMBER 1973

Table 53

Physician Assistants	Physician Associate	%	P.A. in Pathology	%	Total
Full-time Employees	15	83.3	3	16.7	18
Part-time employees	25	92.6	2	7.4	27
Total number employed	40	88.9	5	11.1	45
Number employed-FTE	28.4	87.7	4.0	12.3	32.4
Vacancies-FTE	1.0	100	0	--	1.0
Total Employment opportunities-FTE	29.4	88.0	4.0	12.0	33.4
Employer Perceived Projections					
1975: Method A	43.9	88.0	6.0	12.0	49.9
Method B	43.9	87.3	6.4	12.7	50.3
Method C	43.9	87.3	6.4	12.7	50.3
1980: Method A	57.6	89.2	7.0	10.8	64.6
Method B	57.6	88.1	7.8	11.9	65.4
Method C	64.4	89.2	7.8	10.8	72.2

Physician Assistant in Pathology & Physician Associate:

Tables 54 and 55 present the data for these individual occupations.

Physician assistants in pathology are found exclusively in general and VA hospitals, while physician associates were reported in a variety of other settings as well, as listed above.

None of the PA's in pathology were female. While none of the full-time physician associates were female, all of the 25 part-time workers were.

The projections show significant percentage increases for both professions, although the numerical increases were small. As revealed in table 53, the projected increase in the utilization of physician associates is greater than the projected increase in utilization of PA's in pathology, as can be expected from the more specialized role of the latter profession. These projections do not take into account any increased employment opportunities in private settings which will probably also occur.

Although the numbers are too small for definitive statements, similar conclusions can be drawn from these data as were derived from the data on the nurse professional extenders: the projected large increases in utilization of these personnel reflect the trend away from the physician as the primary source of care, and the location of the increases suggests a trend towards more ambulatory care.

In combining the data on the nurse professional extenders with those from the physician assistants (tables 56 and 57), these conclusions are strengthened. The increase in utilization of these professional extenders is significantly higher than average for both 1975, between 18.3% and 21.1%, and for 1980, between 44.6% and 55.8% over current employment opportunities; increases can be seen in a large variety of settings, many of them directed toward ambulatory care.

EMPLOYMENT PATTERNS OF SELECTED HEALTH OCCUPATIONS IN CONNECTICUT - SEPTEMBER 1973

Table 54

P.A. IN PATHOLOGY

	All Facilities Surveyed	All Hospitals			Extended Care Facilities		VNAs	Clinical Labs.	Industrial Infirmaries	State (excl. Hosp.)	Other Employers (Total)
		General and VA Hospitals	Psych. Hosp.	Chronic Disease Hosp.	Nursing Homes	Rest Homes					
Full-time Employees	3	3	-	-	-	-	-	-	-	-	-
% female full-time	0	0									
Part-time employees	2	2									
% female part-time	0	0									
Total number employed	5	5									
Number employed-FTE	4.0	4.0									
Vacancies-FTE	0	0									
Total Employment opportunities-FTE	4.0	4.0									
Annual Turnover rate	33.3	33.3									
Employer Perceived Projections											
1975: Method A	6.0	6.0									
Method B	6.4	6.4									
Method C	6.4	6.4									
1980: Method A	7.0	7.0									
Method B	7.8	7.8									
Method C	7.8	7.8									

Table 54 (Cont'd.) P.A. IN PATHOLOGY	Other Employers								All Hosp.	ECFs (Nursing & rest homes)	State (including State Hosp.)
	Dental Labs.	NHC & HMO	School Infirmaries	Group Practices	Phys. Therapy Groups	Vol. Health Orgs.	Local Health Depts.	Drug Clinics			
Full-time Employees	-	-	-	-	-	-	-	-	3	-	-
% female full-time											
Part-time employees									2		
% female part-time											
Total number employed									5		
Number employed-FTE									4.0		
Vacancies-FTE									0		
Total Employment opportunities-FTE									4.0		
Annual Turnover rate											
Employer Perceived Projections											
1975: Method A									6.0		
Method B									6.4		
Method C									6.4		
1980: Method A									7.0		
Method B									7.8		
Method C									7.8		

EMPLOYMENT PATTERNS OF SELECTED HEALTH OCCUPATIONS IN CONNECTICUT - SEPTEMBER 1973

Table 55

PHYSICIAN ASSOCIATE

	All Facilities Surveyed	All Hospitals			Extended Care Facilities		VNAs	Clinical Labs.	Industrial Infirmaries	State (excl. Hosp.)	Other Employers (Total)
		General and VA Hospitals	Psych. Hosp.	Chronic Disease Hosp.	Nursing Homes	Rest Homes					
Full-time Employees	15	3	0	-	-	-	-	-	10	-	2
% female full-time	0	0	-						0		
Part-time employees	25	0	0						0		25
% female part-time	100	-	-						-		
Total number employed	40	3	0						10		27
Number employed-FTE	28.4	3.0	0						10.3		15.1
Vacancies-FTE	1.0	1.0	0						0		0
Total Employment opportunities-FTE	29.4	4.0	0						10.3		15.1
Annual Turnover rate	37.5	50.0	0						0		
Employer Perceived Projections											
1975: Method A	43.9	8.0	3.0						10.3		22.6
Method B	43.9	8.0	3.0						10.3		22.6
Method C	43.9	8.0	3.0						10.3		22.6
1980: Method A	57.6	16.0	3.0						13.8		24.8
Method B	57.6	16.0	3.0						13.8		24.8
Method C	64.4	16.0	3.0						20.6		24.8

Table 55 (Cont'd.)

PHYSICIAN ASSOCIATE

	Other Employers										
	Dental Labs.	NHC & HMO	School Infirmaries	Group Practices	Phys. Therapy Groups	Vol. Health Orgs.	Local Health Depts.	Drug Clinics	All Hosp.	ECFs (Nursing & rest homes)	State (including State Hosp.)
Full-time Employees	-	2	-	0	-	0	-	-	3	-	-
% female full-time		0		-		-					
Part-time employees		0		4		21			0		
% female part-time		-		100		100					
Total number employed		2		4		21			3		
Number employed-FTE		2.2		2.2		10.7			3.0		
Vacancies-FTE		0		0		0			1.0		
Total Employment opportunities-FTE		2.2		2.2		10.7			4.0		
Annual Turnover rate		0		0		50.0					
Employer Perceived Projections											
1975: Method A		4.4		2.2		16.0			11.0		
Method B		4.4		2.2		16.0			11.0		
Method C		4.4		2.2		16.0			11.0		
1980: Method A		6.6		2.2		16.0			19.0		
Method B		6.6		2.2		16.0			19.0		
Method C		6.6		2.2		16.0			19.0		

EMPLOYMENT PATTERNS OF SELECTED HEALTH OCCUPATIONS IN CONNECTICUT - SEPTEMBER 1973

Table 56

	All Facilities Surveyed	All Hospitals			Extended Care Facilities		VNAs	Clinical Labs.	Industrial Infirmaries	State (excl. Hosp.)	Other Employers (Total)
		General and VA Hospitals	Psych. Hosp.	Chronic Disease Hosp.	Nursing Homes	Rest Homes					
Full-time Employees	248	114	1	-	0	-	0	-	10	-	123
% female full-time											
Part-time employees	71	23	0		4		0		0		44
% female part-time											
Total number employed	319	137	1		4		0		10		167
Number employed-FTE	284.7	125.5	1.0		1.9		0		10.3		146.0
Vacancies-FTE	29.3	5.0	1.0		0		1.3		0		22.0
Total Employment opportunities-FTE	314.0	130.5	2.0		1.9		1.3		10.3		168.0
Annual Turnover rate											
Employer Perceived Projections											
1975: Method A	371.4	149.0	6.2		1.9		3.2		10.3		200.8
Method B	379.5	156.2	6.2		1.9		3.2		10.3		201.9
Method C	380.1	156.4	6.2		1.9		3.2		10.3		202.1
1980: Method A	453.9	178.0	6.2		1.9		4.8		13.8		249.2
Method B	477.8	199.7	6.2		1.9		4.8		13.8		251.4
Method C	489.1	203.3	6.2		1.9		4.8		20.6		252.3

Table 56 (Cont'd.)	Other Employers								All Hosp.	ECFs (Nursing & rest homes)	State (including State Hosp.)
	Dental Labs.	NHC & HMO	School Infirmaries	Group Practices	Phys. Therapy Groups	Vol. Health Orgs.	Local Health Depts.	Drug Clinics			
Full-time Employees	-	31	-	92	-	0	-	-	115	0	4
% female full-time											
Part-time employees		2		21		21			23	4	2
% female part-time											
Total number employed		33		113		21			138	4	6
Number employed-FTE		31.9		103.4		10.7			126.5	1.9	5.0
Vacancies-FTE		4.4		17.6		0			6.0	0	1.0
Total Employment opportunities-FTE		36.3		121.0		10.7			132.5	1.9	6.0
Annual Turnover rate											
Employer Perceived Projections											
1975: Method A		50.6		134.2		16.0			155.7	1.9	
Method B		51.7		134.2		16.0			162.4	1.9	
Method C		51.9		134.2		16.0			162.6	1.9	
1980: Method A		63.8		169.4		16.0			184.2	1.9	
Method B		66.0		169.4		16.0			205.9	1.9	
Method C		66.9		169.4		16.0			209.5	1.9	

EMPLOYMENT PATTERNS OF SELECTED HEALTH OCCUPATIONS IN CONNECTICUT - SEPTEMBER 1973

Table 57	P.A.	%	P.A. in Path.	%	P.N.A.	%	Adult Nurse Prac.	%	Nurse Midwife	%	Nurse Anes.	%	Total
Full-time Employees	15	6.0	3	1.2	15	6.0	24	9.7	5	2.0	186	75.0	248
Part-time employees	25	35.2	2	2.8	8	11.3	7	9.9	2	2.8	27	38.0	71
Total number employed	40	12.5	5	1.6	23	7.2	31	9.7	7	2.2	213	66.8	319
Number employed-FTE	28.4	10.0	4.0	1.4	18.8	6.6	27.0	9.5	6.5	2.3	200.0	70.2	284.7
Vacancies-FTE	1.0	3.4	0	--	10.1	34.5	1.0	3.4	0	--	17.2	58.7	29.3
Total Employment opportunities-FTE	29.4	9.3	4.0	1.3	28.9	9.2	28.0	8.9	6.5	2.1	217.2	69.2	314.0
Employer Perceived Projections													
1975: Method A	43.9	11.8	6.0	1.6	40.0	10.8	34.8	9.4	13.0	3.5	233.7	62.9	371.4
Method B	43.9	11.6	6.4	1.7	42.3	11.1	38.2	10.1	13.0	3.4	235.9	62.1	379.5
Method C	43.9	11.6	6.4	1.7	42.3	11.1	38.4	10.1	13.0	3.4	236.1	62.1	380.1
1980: Method A	57.6	12.7	7.0	1.5	48.4	10.7	47.8	10.5	17.2	3.8	275.9	60.8	453.9
Method B	57.6	12.1	7.8	1.6	54.8	11.5	59.2	12.4	17.2	3.6	281.2	58.8	477.8
Method C	64.4	13.2	7.8	1.6	57.6	11.8	60.1	12.3	17.2	3.5	282.0	57.6	489.1

11. Radiology: (tables 58 - 62)

Three occupations in the field of radiology were studied in this survey: Radiologic technologist, radiation therapy technologist and nuclear medicine technologist. As can be seen in table 59, radiologic technologist is the largest occupation studied in this field, representing 90% of the total number employed and 89% of the total FTE employment opportunities. The other two occupations represent 4% and 9% of the current employment opportunities respectively.

There were 980 people reported employed in these three occupations combined. Seventy-three percent of these were employed in general hospitals. Eighteen percent were employed in MD group practices. The remainder was scattered throughout various other institutions. However, only radiologic technologists were reported employed outside of the hospital setting. Employment opportunities for radiation therapy technologists and nuclear medicine technologists are apparently limited to general hospitals.

The vacancy rate was 2%. However, 18% of these vacancies were for nuclear medicine technologists, versus 9% of the total employment opportunities.

The projections provided by the employers showed only modest increases: between 6% and 10% for 1975, and between 12% and 19% for 1980. As can be seen from examination of individual occupations, however, while radiologic technologists are projected to increase by 15% at the maximum, the other two occupations could increase by 50% to 55% by 1980. These two occupations apparently represent the faster growing, if smaller segment, in this field.

EMPLOYMENT PATTERNS OF SELECTED HEALTH OCCUPATIONS IN CONNECTICUT - SEPTEMBER 1973

Table 58

RADIOLOGY

	All Facilities Surveyed	All Hospitals			Extended Care Facilities		VNAs	Clinical Labs.	Industrial Infirmaries	State (excl. Hosp.)	Other Employers (Total)
		General and VA Hospitals	Psych. Hosp.	Chronic Disease Hosp.	Nursing Homes	Rest Homes					
Full-time Employees	780	575	6	16	7	-	-	-	21	-	155
% female full-time											
Part-time employees	199	143	0	1	4				7		44
% female part-time											
Total number employed	979	718	6	17	11				28		199
Number employed-FTE	879.7	646.5	6.0	16.4	9.3				24.1		177.4
Vacancies-FTE	19.4	15.1	0	4.3	0				0		0
Total Employment opportunities-FTE	899.1	661.6	6.0	20.7	9.3				24.1		177.4
Annual Turnover rate											
Employer Perceived Projections											
1975: Method A	951.1	710.5	5.0	21.7	9.3				20.6		184.0
Method B	980.7	731.7	5.0	21.7	9.3				20.6		192.4
Method C	989.8	733.8	5.0	21.7	9.3				20.6		199.4
1980: Method A	1003.6	761.7	5.0	21.5	13.0				20.6		181.8
Method B	1060.5	808.8	5.0	23.9	20.4				20.6		181.8
Method C	1072.1	813.0	5.0	23.9	27.8				20.6		181.8

Table 58 (Cont'd.) RADIOLOGY	Other Employers								All Hosp.	ECFs (Nursing & rest homes)	State (including State Hosp.)
	Dental Labs.	NHC & HMO	School Infirmaries	Group Practices	Phys. Therapy Groups	Vol. Health Orgs.	Local Health Depts.	Drug Clinics			
Full-time Employees	-	11	-	136	-	-	8	-	597	7	31
% female full-time											
Part-time employees		0		44			0		144	4	0
% female part-time											
Total number employed		11		180			8		741	11	31
Number employed-FTE		11.0		158.4			8.0		668.9	9.3	31.0
Vacancies-FTE		0		0			0		19.4	0	4.0
Total Employment opportunities-FTE		11.0		158.4			8.0		668.3	9.3	35.0
Annual Turnover rate											
Employer Perceived Projections											
1975: Method A		13.2		162.8			8.0		737.2	9.3	
Method B		13.2		171.2			8.0		758.4	9.3	
Method C		13.2		178.2			8.0		760.5	9.3	
1980: Method A		15.4		158.4			8.0		788.2	13.0	
Method B		15.4		158.4			8.0		837.7	20.4	
Method C		15.4		158.4			8.0		841.9	27.8	

EMPLOYMENT PATTERNS OF SELECTED HEALTH OCCUPATIONS IN CONNECTICUT - SEPTEMBER 1973

Table 59

Radiology

	Radiologic Technologist	%	Radiation Therapy Technologist	%	Nuclear Medicine Technologist	%	Total
Full-time Employees	690	88.5	34	4.3	56	7.2	780
Part-time employees	187	94.0	0	--	12	6.0	199
Total number employed	877	89.6	34	3.5	68	6.9	979
Number employed-FTE	783.7	89.1	34.0	3.9	62.0	7.0	879.7
Vacancies-FTE	14.9	76.8	1.0	5.2	3.5	18.0	19.4
Total Employment opportunities-FTE	798.6	88.8	35.0	3.9	65.5	7.3	899.1
Employer Perceived Projections							
1975: Method A	834.6	87.7	41.5	4.4	75.0	7.9	951.1
Method B	853.4	87.0	45.8	4.7	81.5	8.3	980.7
Method C	862.5	87.1	45.8	4.6	81.5	8.2	989.8
1980: Method A	871.1	86.8	47.5	4.7	85.0	8.5	1003.6
Method B	906.4	85.5	55.8	5.3	98.3	9.3	1060.5
Method C	918.0	85.6	55.8	5.2	98.3	9.2	1072.1

Radiologic Technologist:

There were approximately 875 radiologic technologists employed in the surveyed facilities in Connecticut. Seventy percent of these were employed in general hospitals. The next largest employer, the MD group practices, employed roughly 180 people or 20%. The remaining radiologic technologists were employed in psychiatric or chronic disease hospitals, nursing homes, industrial infirmaries, NHC's and HMO's, and local health departments.

Three-quarters of these personnel worked full-time, one-quarter part-time. A greater proportion, 91%, of the part-time workers were female in comparison to the full-time workers, 75%. These ratios are fairly constant throughout all the facilities.

At the time of the survey there were 15 FTE vacancies for radiologic technologists, two-thirds in general hospitals, one-third in chronic disease hospitals. This represents a low vacancy rate of two percent. The annual turnover rate was 20.0.

The projections provided by the employers show a range of increase between 4% and 9% by 1975, and an increase between 9% and 15% over current employment opportunities by 1980. The majority of the increase was in the general hospitals, as would be expected from the major employer of this occupation.

Radiation Therapy Technologist:

This profession is employed exclusively in general hospitals. At the time of the survey there were 34 employed full-time, none part-time. Ninety-seven percent of those employed were female.

The annual turnover rate was generally low at 7.2. There was one vacancy reported at the time of the survey.

The projections for 1975 showed a range of increase between six and ten FTE's. For 1980, the range was 12 to 20 FTE's. Although the actual numbers are small, the percent increase projected for 1980 is between 34% and 57% of the current employment opportunities.

Nuclear Medicine Technologist:

Nuclear medicine technologists are also employed exclusively in general hospitals. Sixty-eight were reported as currently employed, 56 full-time and 12 part-time.

Only 62.5% of the full-time workers were female, while 75% of the part-time workers were female.

There were 3.5 vacancies reported. The annual turnover rate was relatively high at 27.6.

The projections as perceived by the employers showed a small numerical increase: between 10 and 16 FTE for 1975, and between 20 and 33 FTE for 1980. However, the percent increase projected for 1980 is between 30% and 50% of the current employment opportunities.

EMPLOYMENT PATTERNS OF SELECTED HEALTH OCCUPATIONS IN CONNECTICUT - SEPTEMBER 1973

Table 60

RADIOLOGIC TECHNOLOGIST

	All Facilities Surveyed	All Hospitals			Extended Care Facilities		VNAs	Clinical Labs.	Industrial Infirmaries	State (excl. Hosp.)	Other Employers (Total)
		General and VA Hospitals	Psych. Hosp.	Chronic Disease Hosp.	Nursing Homes	Rest Homes					
Full-time Employees	690	485	6	16	7	-	-	-	21	-	155
% female full-time	75.0	74.2	100	60.0	50.0				83.3		
Part-time employees	187	131	0	1	4				7		44
% female part-time	90.9	91.4	-	100	0				100		
Total number employed	877	616	6	17	11				28		199
Number employed-FTE	783.7	550.5	6.0	16.4	9.3				24.1		177.4
Vacancies-FTE	14.9	10.6	0	4.3	0				0		0
Total Employment opportunities-FTE	798.6	561.1	6.0	20.7	9.3				24.1		177.4
Annual Turnover rate	20.0	20.8	0	21.3	0				0		
Employer Perceived Projections											
1975: Method A	834.6	594.0	5.0	21.7	9.3				20.6		184.0
Method B	853.4	604.4	5.0	21.7	9.3				20.6		192.4
Method C	862.5	606.5	5.0	21.7	9.3				20.6		199.4
1980: Method A	871.1	629.2	5.0	21.5	13.0				20.6		181.8
Method B	906.4	654.7	5.0	23.9	20.4				20.6		181.8
Method C	918.0	658.9	5.0	23.9	27.8				20.6		181.8

Table 60 (Cont'd.)

RADIOLOGIC TECHNOLOGIST

	Other Employers								All Hosp.	ECFs (Nursing & rest homes)	State (including State Hosp.)
	Dental Labs.	NHC & HMO	School Infirmaries	Group Practices	Phys. Therapy Groups	Vol. Health Orgs.	Local Health Depts.	Drug Clinics			
Full-time Employees	-	11	-	136	-	-	8		507	7	31
% female full-time		100		83.8			100				
Part-time employees		0		44			0		132	4	0
% female part-time		-		90			-				
Total number employed		11		180			8		639	11	31
Number employed-FTE		11.0		158.4			8.0		572.9	9.3	31.0
Vacancies-FTE		0		0			0		14.9	0	4.0
Total Employment opportunities-FTE		11.0		158.4			8.0		587.8	9.3	35.0
Annual Turnover rate		0		22.2			0				
Employer Perceived Projections											
1975: Method A		13.2		162.8			8.0		620.7	9.3	
Method B		13.2		171.2			8.0		631.1	9.3	
Method C		13.2		178.2			8.0		633.2	9.3	
1980: Method A		15.4		158.4			8.0		655.7	13.0	
Method B		15.4		158.4			8.0		683.6	20.4	
Method C		15.4		158.4			8.0		687.8	27.8	

EMPLOYMENT PATTERNS OF SELECTED HEALTH OCCUPATIONS IN CONNECTICUT - SEPTEMBER 1973

Table 61

RADIATION THERAPY TECHNOLOGIST

	All Facilities Surveyed	All Hospitals			Extended Care Facilities		VNAs	Clinical Labs.	Industrial Infirmaries	State (excl. Hosp.)	Other Employers (Total)
		General and VA Hospitals	Psych. Hosp.	Chronic Disease Hosp.	Nursing Homes	Rest Homes					
Full-time Employees	34	34	-	-	-	-	-	-	-	-	-
% female full-time	97.0	97.0									
Part-time employees	0	0									
% female part-time	-	-									
Total number employed	34	34									
Number employed-FTE	34.0	34.0									
Vacancies-FTE	1.0	1.0									
Total Employment opportunities-FTE	35.0	35.0									
Annual Turnover rate	7.6	7.6									
Employer Perceived Projections											
1975: Method A	41.5	41.5									
Method B	45.8	45.8									
Method C	45.8	45.8									
1980: Method A	47.5	47.5									
Method B	55.8	55.8									
Method C	55.8	55.8									

Table 61 (Cont'd.)

RADIATION THERAPY TECHNOLOGIST

	Other Employers								All Hosp.	ECFs (Nursing & rest homes)	State (including State Hosp.)
	Dental Labs.	NHC & HMO	School Infirmaries	Group Practices	Phys. Therapy Groups	Vol. Health Orgs.	Local Health Depts.	Drug Clinics			
Full-time Employees	-	-	-	-	-	-	-	-	34	-	-
% female full-time									97.0		
Part-time employees									0		
% female part-time									-		
Total number employed									34		
Number employed-FTE									34.0		
Vacancies-FTE									1.0		
Total Employment opportunities-FTE									35.0		
Annual Turnover rate											
Employer Perceived Projections											
1975: Method A									41.5		
Method B									45.8		
Method C									45.8		
1980: Method A									47.5		
Method B									55.8		
Method C									55.8		

EMPLOYMENT PATTERNS OF SELECTED HEALTH OCCUPATIONS IN CONNECTICUT - SEPTEMBER 1973

Table 62

NUCLEAR MEDICINE TECHNOLOGIST

	All Facilities Surveyed	All Hospitals			Extended Care Facilities		VNAs	Clinical Labs.	Industrial Infirmaries	State (excl. Hosp.)	Other Employers (Total)
		General and VA Hospitals	Psych. Hosp.	Chronic Disease Hosp.	Nursing Homes	Rest Homes					
Full-time Employees	56	56	-	-	-	-	-	-	-	-	-
% female full-time	62.5	62.5									
Part-time employees	12	12									
% female part-time	75.0	75.0									
Total number employed	68	68									
Number employed-FTE	62.0	62.0									
Vacancies-FTE	3.5	3.5									
Total Employment opportunities-FTE	65.5	65.5									
Annual Turnover rate	27.6	27.6									
Employer Perceived Projections											
1975: Method A	75.0	75.0									
Method B	81.5	81.5									
Method C	81.5	81.5									
1980: Method A	85.0	85.0									
Method B	98.3	98.3									
Method C	98.3	98.3									

Table 62 (Cont'd.)

NUCLEAR MEDICINE TECHNOLOGIST	Other Employers								All Hosp.	ECFs (Nursing & rest homes)	State (including State Hosp.)
	Dental Labs.	NHC & HMO	School Infirmaries	Group Practices	Phys. Therapy Groups	Vol. Health Orgs.	Local Health Depts.	Drug Clinics			
Full-time Employees	-	-	-	-	-	-	-	-	56	-	-
% female full-time									62.5		
Part-time employees									12		
% female part-time									75.0		
Total number employed									68		
Number employed-FTE									62.0		
Vacancies-FTE									3.5		
Total Employment opportunities-FTE									65.5		
Annual Turnover rate											
Employer Perceived Projections											
1975: Method A									75.0		
Method B									81.5		
Method C									81.5		
1980: Method A									85.0		
Method B									98.3		
Method C									98.3		

12. Rehabilitation Therapy: (tables 63 - 84)

A large variety of occupations in the field of rehabilitation therapy were studied. Speech pathologist and audiologist; rehabilitation counselor; rehabilitation aide; and orthotist and prosthetist were investigated as well as three occupations in the field of physical therapy, three occupations in the field of occupational therapy, and four occupations in the field of recreation therapy.

Tables 63 and 64 present the data for all of these occupations and occupational groups combined. Over 1,700 people were employed in this field, 1,200 full-time and 500 part-time. Nursing homes were one of the largest employers, especially of part-time workers. Many of the specialty therapists, such as speech pathologists and audiologists or physical therapists, work in these facilities for a few hours a week on a contractual basis. The state agencies and facilities employed 23% of the people in this field.

The vacancy rate was close to average at 5.2%. With the exception of nursing homes, which reported no vacancies, the vacancies appeared to be distributed evenly among the different types of facilities.

The projections as perceived by the employer showed higher than average increases: between 21.6% and 33.7% by 1975, and between 31.5% and 49.6% over current employment opportunities by 1980.

Table 64 shows the various proportions of the occupations or groups of occupations within these fields. Physical therapy is the largest group with 35.5% of all current employment opportunities. Rehabilitation counselor is the next largest with 22.4%, and recreation therapy is third with 18.3%.

The projections show some small changes in the proportions of these groups or occupations by 1980: Physcial therapy and speech pathologist and audiologist will increase slightly; occupational therapy, recreation therapy and rehabilitation counselors will decrease; and orthotist and prosthetist and rehabilitation aide will remain close to their current proportions.

Table 63

REHABILITATION THERAPY

	All Facilities Surveyed	All Hospitals			Extended Care Facilities		VNAs	Clinical Labs.	Industrial Infirmaries	State (excl. Hosp.)	Other Employers (Total)
		General and VA Hospitals	Psych. Hosp.	Chronic Disease Hosp.	Nursing Homes	Rest Homes					
Full-time Employees	1230	239	188	131	210	0	2	--	7	154	299
% female full-time											
Part-time employees	502	48	13	8	337	4	16		0	0	76
% female part-time											
Total number employed	1732	287	201	139	547	4	18		7	154	375
Number employed-FTE	1484.9	263.0	195.4	135.7	379.6	1.8	9.5		6.9	154.0	339.0
Vacancies-FTE	81.0	7.5	25.5	6.0	0	0	0		3.4	22.0	16.6
Total Employment opportunities-FTE	1565.9	270.5	220.9	141.7	379.6	1.8	9.5		10.3	176.0	355.6
Annual Turnover rate											
Employer Perceived Projections											
1975: Method A	1903.6	300.0	274.2	159.6	510.9	1.8	15.0		17.2	179.0	445.9
Method B	2034.5	307.2	277.2	159.5	566.0	1.8	15.0		17.2	178.0	512.6
Method C	2093.6	309.1	277.2	159.5	621.5	1.8	15.0		18.9	178.0	512.6
1980: Method A	2059.6	336.2	280.1	168.0	529.4	1.8	17.4		31.0	223.0	472.7
Method B	2279.5	352.0	286.2	172.6	613.4	1.8	17.4		31.0	223.0	582.1
Method C	2343.1	354.4	286.2	172.6	672.9	1.8	17.4		32.7	223.0	582.1

Table 63 (Cont'd.)

REHABILITATION THERAPY

	Other Employers								All Hosp.	ECFs (Nursing & rest homes)	State (including State Hosp.)
	Dental Labs.	NHC & HMO	School Infirmaries	Group Practices	Phys. Therapy Groups	Vol. Health Orgs.	Local Health Depts.	Drug Clinics			
Full-time Employees	-	24	-	4	38	141	--	92	558	210	386
% female full-time											
Part-time employees		6		9	8	37		16	69	341	6
% female part-time											
Total number employed		30		13	46	178		108	627	551	392
Number employed-FTE		27.5		8.8	42.6	160.2		99.9	594.1	381.4	389.0
Vacancies-FTE		11.0		0	3.0	2.6		0	39.0	0	49.0
Total Employment opportunities-FTE		38.5		8.8	45.6	162.8		99.9	633.1	381.4	438.0
Annual Turnover rate											
Employer Perceived Projections											
1975: Method A		45.1		8.8	51.6	224.3		116.1	733.8	512.7	
Method B		54.6		8.8	69.5	254.4		125.3	743.9	567.8	
Method C		54.6		8.8	69.5	254.4		125.3	745.8	623.3	
1980: Method A		49.5		8.8	55.2	237.7		121.5	784.3	531.2	
Method B		63.8		8.8	81.3	294.8		133.4	810.8	615.2	
Method C		63.8		8.8	81.3	294.8		133.4	813.2	674.7	

EMPLOYMENT PATTERNS OF SELECTED HEALTH OCCUPATIONS IN CONNECTICUT - SEPTEMBER 1973

Table 64

Rehabilitation Therapy	Speech Path. and Aud.	%	Coun-selor Rehab. Serv.	%	Rehab. Aide	%	Orth. and Prosth.	%	P.T.	%	O.T.	%	Re-creation Ther-apy	%	Total
Full-time Employees	46	3.7	322	26.2	35	2.9	10	.8	401	32.6	176	14.3	240	19.5	1230
Part-time employees	84	16.7	15	3.0	5	1.0	7	1.4	269	53.6	45	9.0	77	15.3	502
tal number employed	130	7.5	337	19.4	40	2.3	17	1.0	670	38.7	221	12.8	317	18.3	1732
Number employed-FTE	89.0	6.0	329.5	22.2	37.7	2.5	13.7	.9	537.0	36.2	198.6	13.4	279.4	18.8	1484.9
Vacancies-FTE	8.0	9.9	21.5	26.6	0	--	0	--	18.9	23.3	25.3	31.2	7.3	9.0	81.0
tal Employment oppor-nities-FTE	97.0	6.2	351.0	22.4	37.7	2.4	13.7	.9	555.9	35.5	223.9	14.3	286.7	18.3	1565.9
Employer Perceived Projections															
1975: Method A	120.1	6.3	377.8	19.8	43.1	2.3	16.6	.9	714.0	37.5	276.0	14.5	356.0	18.7	1903.6
Method B	136.9	6.7	388.4	19.1	43.1	2.1	16.6	.8	791.0	38.9	280.7	13.8	377.8	18.6	2034.5
Method C	140.3	6.7	388.4	18.5	43.1	2.1	16.6	.8	820.1	39.2	280.7	13.4	404.4	19.3	2093.6
1980: Method A	141.2	6.8	445.7	21.6	54.8	2.7	20.3	1.0	743.1	36.1	292.8	14.2	361.7	17.6	2059.6
Method B	172.5	7.6	463.3	20.3	54.8	2.4	25.8	1.1	868.2	38.1	306.0	13.4	388.9	17.1	2279.5
Method C	178.0	7.6	463.3	19.8	54.8	2.3	25.8	1.1	898.5	38.3	306.0	13.1	416.7	17.8	2343.1

Speech Pathologist and Audiologist:

One hundred thirty speech pathologists and audiologists were employed at the time of the survey. Employment opportunities for this profession were found in a large variety of facilities including: general and VA hospitals, psychiatric and chronic disease hospitals, nursing and rest homes, state agencies, NHC's and HMO's, and voluntary health organizations.

Nursing homes were the largest employer with 70 employed. All 70 worked part-time, possibly on a contractual basis for only a few hours a week. If so, the number employed in FTE's and the total number employed could be inflated. Eighty-four of the 130 employed worked part-time. Of these 84, 36% were female, while 82% of the full-time workers were female, the reverse of the average trend.

Eight vacancies were reported giving a high vacancy rate of 8.2%. The turnover rate was low at 12.1.

Large increases were reported in the projections: between 23.8% and 44.6% by 1975, and between 45.6% and 83.5 % over current employment opportunities by 1980.

Effective October 1, 1973, speech pathologists and audiologists were required to obtain licenses to practice in Connecticut. Previously, it was possible that certain positions would be open to both speech therapists (bachelors degree) and speech pathologists with the masters degree or equivalent education required for licensure. With licensure it is probable that employment opportunities for these two categories will no longer overlap. Also, it should be possible to obtain accurate information on both the supply of and the demand for the members of this profession.

Counselor, Rehabilitation Services:

The surveyed facilities reported 337 rehabilitation counselors employed at the time of the survey. Employment opportunities for this profession were found in psychiatric and chronic disease hospitals nursing homes, state agencies, NHC's and HMO's, voluntary health organizations, and drug clinics. Industrial infirmaries projected employment opportunities for this profession by 1980. State agencies and state hospitals combined employed 185 counselors, making the state the largest employer of this profession.

Fifteen of the 337 worked part-time. Two-thirds of the part-time workers were female; 38% of the full-time workers were female.

The vacancy rate was slightly higher than average at 6.1%. The annual turnover rate was low at 12.3.

The projections as perceived by the employer show small increases for 1975, between 7.6% and 10.7%, but larger than average increases for 1980, between 27.0% and 32.0% over current employment opportunities.

Rehabilitation Aide:

Forty rehabilitation aides were reported employed: 35 employed full-time in chronic disease hospitals, five reported part-time in drug clinics. Some employment opportunities might become available in general hospitals and voluntary health organizations in the future.

Approximately 90% of those employed were female. No vacancies were reported. The annual turnover rate was zero. The projections showed increases of 15% by 1975 and 45% over current employment opportunities by 1980.

Orthotist and Prosthetist:

Seventeen orthotists and prosthetists were employed at the time of the survey: 10 full-time in general hospitals, seven part-time in nursing homes. Chronic disease hospitals projected one FTE for this occupation by 1975.

All those employed were male. No vacancies were reported. The annual turnover rate was zero.

The projections showed modest increases: from the current 13.7 FTE to 16.6 FTE by 1975, and to between 20.3 and 25.8 FTE by 1980.

EMPLOYMENT PATTERNS OF SELECTED HEALTH OCCUPATIONS IN CONNECTICUT - SEPTEMBER 1973

Table 65

SPEECH PATHOLOGIST AND AUDIOLOGIST

	All Facilities Surveyed	All Hospitals			Extended Care Facilities		VNAs	Clinical Labs.	Industrial Infirmaries	State (excl. Hosp.)	Other Employers (Total)
		General and VA Hospitals	Psych. Hosp.	Chronic Disease Hosp.	Nursing Homes	Rest Homes					
Full-time Employees	46	14	1	5	0	0	--	--	--	5	21
% female full-time	81.8	85.7	100	60	--	--				100	
Part-time employees	84	4	0	2	70	4				0	4
% female part-time	36.0	50.0	--	0	41.1	--				--	
Total number employed	130	18	1	7	70	4				5	25
Number employed-FTE	89.0	16.0	1.0	6.4	35.2	1.8				5.0	23.6
Vacancies-FTE	8.0	1.0	0	0	0	0				0	7.0
Total Employment opportunities-FTE	97.0	17.0	1.0	6.4	35.2	1.8				5.0	30.6
Annual Turnover rate	12.1	6.9	0	16.7	0	0				0	
Employer Perceived Projections											
1975: Method A	120.1	18.5	2.0	7.0	48.1	1.8				5.0	37.7
Method B	136.9	18.5	2.0	7.0	54.0	1.8				5.0	48.6
Method C	140.3	18.5	2.0	7.0	57.4	1.8				5.0	48.6
1980: Method A	141.2	24.5	2.0	9.0	53.7	1.8				5.0	45.2
Method B	172.5	24.7	2.0	9.4	64.8	1.8				5.0	64.8
Method C	178.0	24.7	2.0	9.4	70.3	1.8				5.0	64.8

Table 65 (Cont'd.)

SPEECH PATHOLOGIST AND AUDIOLOGIST	Other Employers								All Hosp.	ECFs (Nursing & rest homes)	State (including State Hosp.)
	Dental Labs.	NHC & HMO	School Infirmaries	Group Practices	Phys. Therapy Groups	Vol. Health Orgs.	Local Health Depts.	Drug Clinics			
Full-time Employees	-	0	-	-	-	21	-	-	20	0	7
% female full-time		-				75.0					
Part-time employees		4				0			6	74	1
% female part-time		0				-					
Total number employed		4				21			26	74	8
Number employed-FTE		2.2				21.4			23.4	37.0	7.5
Vacancies-FTE		4.4				2.6			1.0	0	0
Total Employment opportunities-FTE		6.6				24.0			24.4	37.0	7.5
Annual Turnover rate		0				42.8					
Employer Perceived Projections											
1975: Method A		11.0				26.7			27.5	49.9	
Method B		19.8				28.8			27.5	55.8	
Method C		19.8				28.8			27.5	59.2	
1980: Method A		13.2				32.0			35.5	55.5	
Method B		26.4				38.4			36.1	66.6	
Method C		26.4				38.4			36.1	72.1	

EMPLOYMENT PATTERNS OF SELECTED HEALTH OCCUPATIONS IN CONNECTICUT - SEPTEMBER 1973

Table 66

COUNSELOR, REHABILITATION SERVICES

	All Facilities Surveyed	All Hospitals			Extended Care Facilities		VNAs	Clinical Labs.	Industrial Infirmaries	State (excl. Hosp.)	Other Employers (Total)
		General and VA Hospitals	Psych. Hosp.	Chronic Disease Hosp.	Nursing Homes	Rest Homes					
Full-time Employees	322	--	51	2	0	-	-	-	0	135	134
% female full-time	38.2		17.6	50	--				-	49.6	
Part-time employees	15		0	0	4				0	0	11
% female part-time	66.6		-	-	0				-	-	
Total number employed	337		51	2	4				0	135	145
Number employed-FTE	329.5		51.2	2.1	1.9				0	135.0	139.3
Vacancies-FTE	21.5		4.5	0	0				0	17.0	0
Total Employment opportunities-FTE	351.0		55.7	2.1	1.9				0	152.0	139.3
Annual Turnover rate	12.3		12.5	0	0				0	10.3	
Employer Perceived Projections											
1975: Method A	377.8		56.9	3.2	5.6				0	154.0	158.1
Method B	388.4		56.9	3.2	5.6				0	154.0	168.7
Method C	388.4		56.9	3.2	5.6				0	154.0	168.7
1980: Method A	445.7		58.9	4.2	5.6				13.8	197.0	166.2
Method B	463.3		61.4	4.2	5.6				13.8	197.0	181.3
Method C	463.3		61.4	4.2	5.6				13.8	197.0	181.3

Table 66 (Cont'd.)

COUNSELOR, REHABILITATION SERVICES

	Other Employers								All Hosp.	ECFs (Nursing & rest homes)	State (including State Hosp.)
	Dental Labs.	NHC & HMO	School Infirmaries	Group Practices	Phys. Therapy Groups	Vol. Health Orgs.	Local Health Depts.	Drug Clinics			
Full-time Employees	-	15	-	-	-	27	-	92	53	0	185
% female full-time		14.2				30.0		23.5			
Part-time employees		0				0		11	0	4	0
% female part-time		-				-		100			
Total number employed		15				27		103	53	4	185
Number employed-FTE		15.4				26.7		97.2	53.3	1.9	185.0
Vacancies-FTE		0				0		0	4.5	0	21.5
Total Employment opportunities-FTE		15.4				26.7		97.2	57.8	1.9	206.5
Annual Turnover rate		0				12.5		23.5			
Employer Perceived Projections											
1975: Method A		15.4				32.0		110.7	60.1	5.6	
Method B		15.4				33.4		119.9	60.1	5.6	
Method C		15.4				33.4		119.9	60.1	5.6	
1980: Method A		15.4				40.1		110.7	63.1	5.6	
Method B		15.4				43.3		122.6	65.6	5.6	
Method C		15.4				43.3		122.6	65.6	5.6	

EMPLOYMENT PATTERNS OF SELECTED HEALTH OCCUPATIONS IN CONNECTICUT - SEPTEMBER 1973

Table 67

REHABILITATION AIDE

	All Facilities Surveyed	All Hospitals			Extended Care Facilities		VNAs	Clinical Labs.	Industrial Infirmaries	State (excl. Hosp.)	Other Employers (Total)
		General and VA Hospitals	Psych. Hosp.	Chronic Disease Hosp.	Nursing Homes	Rest Homes					
Full-time Employees	35	0	-	35	-	-	-	-	-	-	0
% female full-time	90.9	-		90.9							-
Part-time employees	5	0		0							5
% female part-time	0	-		-							0
Total number employed	40	0		35							5
Number employed-FTE	37.7	0		35.0							2.7
Vacancies-FTE	0	0		0							0
Total Employment opportunities-FTE	37.7	0		35.0							2.7
Annual Turnover rate	0	0		0							
Employer Perceived Projections											
1975: Method A	43.1	0		35.0							8.1
Method B	43.1	0		35.0							8.1
Method C	43.1	0		35.0							8.1
1980: Method A	54.8	1.0		35.0							18.8
Method B	54.8	1.0		35.0							18.8
Method C	54.8	1.0		35.0							18.8

Table 67 (Cont'd.)

REHABILITATION AIDE

	Other Employers								All Hosp.	ECFs (Nursing & rest homes)	State (including State Hosp.)
	Dental Labs.	NHC & HMO	School Infirmaries	Group Practices	Phys. Therapy Groups	Vol. Health Orgs.	Local Health Depts.	Drug Clinics			
Full-time Employees	-	-	-	-	-	0	-	0	35	-	33
% female full-time						-		-			
Part-time employees						0		5	0		0
% female part-time						-		0			
Total number employed						0		5	35		33
Number employed-FTE						0		2.7	35.0		33.0
Vacancies-FTE						0		0	0		0
Total Employment opportunities-FTE						0		2.7	35.0		33.0
Annual Turnover rate						0		0			
Employer Perceived Projections											
1975: Method A						2.7		5.4	35.0		
Method B						2.7		5.4	35.0		
Method C						2.7		5.4	35.0		
1980: Method A						8.0		10.8	36.0		
Method B						8.0		10.8	36.0		
Method C						8.0		10.8	36.0		

EMPLOYMENT PATTERNS OF SELECTED HEALTH OCCUPATIONS IN CONNECTICUT - SEPTEMBER 1973

Table 68

ORTHOTIST AND PROSTHETIST

	All Facilities Surveyed	All Hospitals			Extended Care Facilities		VNAs	Clinical Labs.	Industrial Infirmaries	State (excl. Hosp.)	Other Employers (Total)
		General and VA Hospitals	Psych. Hosp.	Chronic Disease Hosp.	Nursing Homes	Rest Homes					
Full-time Employees	10	10	-	0	0	--	-	-	--	--	--
% female full-time	0	0		-	-						
Part-time employees	7	0		0	7						
% female part-time	0	-		-	0						
Total number employed	17	10.0		0	7						
Number employed-FTE	13.7	10.0		0	3.7						
Vacancies-FTE	0	0		0	0						
Total Employment opportunities-FTE	13.7	10.0		0	3.7						
Annual Turnover rate	0	0		0	0						
Employer Perceived Projections											
1975: Method A	16.6	10.0		1.0	5.6						
Method B	16.6	10.0		1.0	5.6						
Method C	16.6	10.0		1.0	5.6						
1980: Method A	20.3	10.0		1.0	9.3						
Method B	25.8	10.0		1.0	14.8						
Method C	25.8	10.0		1.0	14.8						

Table 68 (Cont'd.)

ORTHOTIST AND PROSTHETIST

	Other Employers								All Hosp.	ECFs (Nursing & rest homes)	State (including State Hosp.)
	Dental Labs.	NHC & HMO	School Infirmaries	Group Practices	Phys. Therapy Groups	Vol. Health Orgs.	Local Health Depts.	Drug Clinics			
Full-time Employees	-	-	-	-	-	-	-	-	10	0	-
% female full-time											
Part-time employees									0	7	
% female part-time											
Total number employed									10	7	
Number employed-FTE									10.0	3.7	
Vacancies-FTE									0	0	
Total Employment opportunities-FTE									10.0	3.7	
Annual Turnover rate											
Employer Perceived Projections											
1975: Method A									11.0	5.6	
Method B									11.0	5.6	
Method C									11.0	5.6	
1980: Method A									11.0	9.3	
Method B									11.0	14.8	
Method C									11.0	14.8	

Physical Therapy:

Three occupations in the physical therapy field were investigated: Physical therapist, physical therapy assistant, and physical therapy aide.

Six hundred seventy people were employed in this field at the time of the survey. The two largest employers, general hospitals and nursing homes, each employed approximately 200 people. Other employers of personnel in this field included: Psychiatric and chronic disease hospitals, nursing homes, visiting nurse associations, industrial infirmaries, state agencies, NHC's and HMO's, MD group practices, physical therapy contractors, and voluntary health organizations.

Two hundred sixty-nine, or approximately 40% of those employed, worked part-time. Of these, 178 were employed in nursing homes: It is possible that this reflects the situation described in detail in the introduction and methodology section and found in other professions, such as dietitian or speech pathologist and audiologist. (A typical nursing homes will employ an individual in this field for a few hours a week on a contractual basis. They will record these as part-time workers, and thus the number of FTE's employed reported from the survey will be higher than in fact. As some individuals may work for two or more institutions simultaneously, or may even be employed full-time by a physical therapy contractor, the total number employed may also be inflated.)

The vacancy rate was slightly below average at 3.4%. The vacancies were relatively evenly distributed among the surveyed facilities.

The projections as perceived by the employers showed increases significantly above the average: between 28.4% and 47.5% by 1975, and between 33.7% and 61.6% over current employment opportunities by 1980. Exceptionally large increases were reported by nursing homes and physical therapy contractors.

Table 70 reveals that physical therapists represent 74.7% of the current employment opportunities in this field. Physical therapy aides are the next largest group with 18.8%; physical therapy assistants represent only 6.5%. (The specific proportions of these latter two groups may not be entirely accurate. It was unclear to some employers which title best fit their job descriptions, and different classifications may have been used for similar personnel.)

The projections indicate that these proportions will change: Physical therapists will decrease to roughly 71.5%, while PT assistants increase to 9.5% and PT aides to 19%. This could indicate that, as physical therapy departments in facilities increase to a greater size, more assistants and aides will be working under a physical therapist supervisor, thus utilizing the various occupations more efficiently than is now possible with relatively small departments.

EMPLOYMENT PATTERNS OF SELECTED HEALTH OCCUPATIONS IN CONNECTICUT - SEPTEMBER 1973

Table 69

PHYSICAL THERAPY

	All Facilities Surveyed	All Hospitals			Extended Care Facilities		VNAs	Clinical Labs.	Industrial Infirmaries	State (excl. Hosp.)	Other Employers (Total)
		General and VA Hospitals	Psych. Hosp.	Chronic Disease Hosp.	Nursing Homes	Rest Homes					
Full-time Employees	401	178	5	55	29	-	2	-	7	5	120
% female full-time											
Part-time employees	269	35	0	1	178		14		0	0	41
% female part-time											
Total number employed	670	213	5	56	207		16		7	5	161
Number employed-FTE	537.0	195.5	5.2	55.6	118.5		8.7		6.9	5.0	141.6
Vacancies-FTE	18.9	4.0	0	3.3	0		0		3.4	3.0	5.2
Total Employment opportunities-FTE	555.9	199.5	5.2	58.9	118.5		8.7		10.3	8.0	146.8
Annual Turnover rate											
Employer Perceived Projections											
1975: Method A	714.0	219.0	7.2	68.4	190.6		14.2		13.8	7.0	193.8
Method B	791.0	226.2	7.2	68.4	220.2		14.2		13.8	6.0	235.0
Method C	820.1	228.1	7.2	68.4	245.7		14.2		15.5	6.0	235.0
1980: Method A	743.1	239.7	7.2	72.7	194.3		15.8		13.8	8.0	191.6
Method B	868.2	255.3	7.2	76.4	236.9		15.8		13.8	8.0	254.8
Method C	898.5	257.7	7.2	76.4	263.1		15.8		15.5	8.0	254.8

Table 69 (Cont'd.)

PHYSICAL THERAPY	Other Employers								All Hosp.	ECFs (Nursing & rest homes)	State (including State Hosp.)
	Dental Labs.	NHC & HMO	School Infirmaries	Group Practices	Phys. Therapy Groups	Vol. Health Orgs.	Local Health Depts.	Drug Clinics			
Full-time Employees	-	9	-	4	38	69	-	-	238	29	27
% female full-time											
Part-time employees		0		9	8	24			36	178	0
% female part-time											
Total number employed		9		13	46	93			274	207	27
Number employed-FTE		8.8		8.8	42.6	81.4			256.3	118.5	27.0
Vacancies-FTE		2.2		0	3.0	0			7.3	0	6.0
Total Employment opportunities-FTE		11.0		8.8	45.6	81.4			263.6	118.5	33.0
Annual Turnover rate											
Employer Perceived Projections											
1975: Method A		13.2		8.8	51.6	120.2			294.6	190.6	
Method B		13.9		8.8	69.5	142.8			301.8	220.2	
Method C		13.9		8.8	69.5	142.8			303.7	245.7	
1980: Method A		15.4		8.8	55.2	112.2			319.6	194.3	
Method B		16.5		8.8	81.3	148.2			338.9	236.9	
Method C		16.5		8.8	81.3	148.2			341.3	263.1	

EMPLOYMENT PATTERNS OF SELECTED HEALTH OCCUPATIONS IN CONNECTICUT - SEPTEMBER 1973

Table 70

Physical Therapy	Physical Therapist	%	Physical Therapy Assistant	%	Physical Therapy Aide	%	Total
Full-time Employees	289	72.1	25	6.2	87	21.7	401
Part-time employees	221	82.1	15	5.6	33	12.3	269
Total number employed	510	76.1	40	6.0	120	17.9	670
Number employed-FTE	399.9	74.5	33.9	6.3	103.2	19.2	537.0
Vacancies-FTE	15.2	80.4	2.1	11.1	1.6	8.5	18.9
Total Employment opportunities-FTE	415.1	74.7	36.0	6.5	104.8	18.8	555.9
Employer Perceived Projections							
1975: Method A	516.6	72.4	58.2	8.1	139.2	19.5	714.0
Method B	572.0	72.3	72.4	9.2	146.6	18.5	791.0
Method C	595.9	72.7	72.4	8.8	151.8	18.5	820.1
1980: Method A	529.4	71.3	67.8	9.1	145.9	19.6	743.1
Method B	620.8	71.5	86.9	10.0	160.5	18.5	868.2
Method C	645.0	71.8	86.9	9.7	166.6	18.5	898.5

Physical Therapist:

Five hundred ten physical therapists were reported employed at the time of the survey. Of these, 40% were employed part-time. Over 90% of those employed in nursing homes were reported employed on a part-time basis. As mentioned, it is possible that many of these work only a few hours a week, possibly at more than one facility; thus, the number reported could be higher than the actual number, and also the number in FTE's, of physical therapists employed in nursing homes.

Eighty-seven percent of the part-time workers employed were female; 78% of the full-time workers were female. The vacancy rate was close to average at 3.7%. However, the annual turnover rate was high at 28.2. The turnover rate in nursing homes was 40.

The projections as perceived by the employer showed high increases: between 24.5% and 43.6% by 1975, and between 27.5% and 55.4% by 1980.

In 1973, 605 physical therapists held active licenses in Connecticut. Assuming about 90% are actively practicing at any given time would result in roughly 545 employed. This is close to the 510 reported employed in the survey. The discrepancy could be due to some individuals practicing independently of the surveyed facilities or to error due to extrapolation.

Physical Therapy Assistant:

Forty physical therapy assistants were reported employed. Twenty-two were reported employed in nursing homes; the remainder was reported in general and VA hospitals, chronic disease hospitals, physical therapy groups and voluntary health organizations. The low numbers here may reflect that some employers were unsure whether to use the PT assistant or the PT aide classification for certain personnel.

Fifteen PT assistants were reported working part-time, all in nursing homes. All of the part-time workers and 94% of the full-time workers were female. Only 2.1 vacancies were reported, but due to the small number employed this yielded a vacancy rate of 5.8%. The annual turnover rate was low at 5.5.

Very high increases in the utilization of these personnel were projected by the employers: between 61.7% and 101.1% by 1975, and between 88.3% and 141.4% over current employment opportunities by 1980.

Physical Therapy Aide:

One hundred twenty physical therapy aides were employed at the time of the survey. Over half were employed in general and VA hospitals. Others were employed in psychiatric hospitals, chronic disease hospitals, nursing homes, physical therapy groups, and voluntary health organizations.

Approximately one-quarter of those employed worked part-time (two-thirds of those in nursing homes worked part-time). Of the part-time workers, 89% were female; 73% of the full-time workers were female.

Only 1.6 vacancies were reported, giving a very low vacancy rate of 1.5%. However, the annual turnover rate was high at 30.0.

As with other occupations in this field, sizable increases were projected: between 32.8% and 44.8% by 1975, and between 39.2% and 59.0% over current employment opportunities by 1980.

EMPLOYMENT PATTERNS OF SELECTED HEALTH OCCUPATIONS IN CONNECTICUT - SEPTEMBER 1973

Table 71

PHYSICAL THERAPIST

	All Facilities Surveyed	All Hospitals			Extended Care Facilities		VNAs	Clinical Labs.	Industrial Infirmaries	State (excl. Hosp.)	Other Employers (Total)
		General and VA Hospitals	Psych. Hosp.	Chronic Disease Hosp.	Nursing Homes	Rest Homes					
Full-time Employees	289	121	4	37	11	-	2	-	7	5	102
% female full-time	78.2	76.8	75.0	71.4	100		100		100	100	
Part-time employees	221	23	0	0	144		14		0	0	40
% female part-time	87.0	95.6	-	-	80.5		100		-	-	
Total number employed	510	144	4	37	155		16		7	5	142
Number employed-FTE	399.9	132.5	4.2	37.1	83.3		8.7		6.9	5.0	122.2
Vacancies-FTE	15.2	2.5	0	1.1	0		0		3.4	3.0	5.2
Total Employment opportunities-FTE	415.1	135.0	4.2	38.2	83.3		8.7		10.3	8.0	127.4
Annual Turnover rate	28.2	27.0	0	31.4	40.0		0		0	dk	
Employer Perceived Projections											
1975: Method A	516.6	147.0	6.2	45.6	120.3		14.2		13.8	7.0	162.5
Method B	572.0	150.7	6.2	45.6	138.8		14.2		13.8	6.0	196.7
Method C	595.9	152.6	6.2	45.6	159.1		14.2		15.5	6.0	196.7
1980: Method A	529.4	160.1	6.2	48.8	120.3		15.8		13.8	8.0	156.4
Method B	620.8	168.4	6.2	52.5	146.2		15.8		13.8	8.0	209.9
Method C	645.0	170.6	6.2	52.5	166.5		15.8		15.5	8.0	209.9

Table 71 (Cont'd.) PHYSICAL THERAPIST	Other Employers								All Hosp.	ECFs (Nursing & rest homes)	State (including State Hosp.)
	Dental Labs.	NHC & HMO	School Infirmaries	Group Practices	Phys. Therapy Groups	Vol. Health Orgs.	Local Health Depts.	Drug Clinics			
Full-time Employees	-	9	-	4	28	61	-	-	162	11	23
% female full-time		50.0		100	77.2	95.6					
Part-time employees		0		9	7	24			23	144	0
% female part-time		-		0	100	88.8					
Total number employed		9		13	35	85			185	155	23
Number employed-FTE		8.8		8.8	31.2	73.4			173.8	83.3	23.0
Vacancies-FTE		2.2		0	3.0	0			3.6	0	4.0
Total Employment opportunities-FTE		11.0		8.8	34.2	73.4			177.4	83.3	27.0
Annual Turnover rate		25.0		0	29.7	23.5					
Employer Perceived Projections											
1975: Method A		13.2		8.8	39.0	101.5			198.8	120.3	
Method B		13.9		8.8	55.2	118.8			202.5	138.8	
Method C		13.9		8.8	55.2	118.8			204.4	159.1	
1980: Method A		15.4		8.8	41.4	90.8			215.1	120.3	
Method B		16.5		8.8	65.8	118.8			227.1	146.2	
Method C		16.5		8.8	65.8	118.8			229.3	166.5	

EMPLOYMENT PATTERNS OF SELECTED HEALTH OCCUPATIONS IN CONNECTICUT - SEPTEMBER 1973

Table 72

PHYSICAL THERAPY ASSISTANT

	All Facilities Surveyed	All Hospitals			Extended Care Facilities		VNAs	Clinical Labs.	Industrial Infirmaries	State (excl. Hosp.)	Other Employers (Total)
		General and VA Hospitals	Psych. Hosp.	Chronic Disease Hosp.	Nursing Homes	Rest Homes					
Full-time Employees	25	4	-	7	7	-	-	-	-	-	7
% female full-time	94.1	100		85.7	100						
Part-time employees	15	0		0	15						0
% female part-time	100	-		-	100						
Total number employed	40	4		7	22						7
Number employed-FTE	33.9	4.0		7.4	14.8						7.7
Vacancies-FTE	2.1	1.0		1.1	0						0
Total Employment opportunities-FTE	36.0	5.0		8.5	14.8						7.7
Annual Turnover rate	5.5	0		14.3	0						
Employer Perceived Projections											
1975: Method A	58.2	7.0		8.5	29.6						13.1
Method B	72.4	7.0		8.5	38.5						18.4
Method C	72.4	7.0		8.5	38.5						18.4
1980: Method A	67.8	9.0		8.5	33.3						17.0
Method B	86.9	9.0		8.5	44.4						25.0
Method C	86.9	9.0		8.5	44.4						25.0

Table 72 (Cont'd.) PHYSICAL THERAPY ASSISTANT	Other Employers								All Hosp.	ECFs (Nursing & rest homes)	State (including State Hosp.)
	Dental Labs.	NHC & HMO	School Infirmaries	Group Practices	Phys. Therapy Groups	Vol. Health Orgs.	Local Health Depts.	Drug Clinics			
Full-time Employees	-	-	-	-	2	5	-	-	11	7	2
% female full-time					100	100					
Part-time employees					0	0			0	15	0
% female part-time					-	-					
Total number employed					2	5			11	22	2
Number employed-FTE					2.4	5.3			11.4	14.8	2.0
Vacancies-FTE					0	0			2.1	0	1.0
Total Employment opportunities-FTE					2.4	5.3			13.5	14.8	3.0
Annual Turnover rate					0	0					
Employer Perceived Projections											
1975: Method A					2.4	10.7			15.5	29.6	
Method B					2.4	16.0			15.5	38.5	
Method C					2.4	16.0			15.5	38.5	
1980: Method A					3.6	13.4			17.5	33.3	
Method B					3.6	21.4			17.5	44.4	
Method C					3.6	21.4			17.5	44.4	

EMPLOYMENT PATTERNS OF SELECTED HEALTH OCCUPATIONS IN CONNECTICUT - SEPTEMBER 1973

Table 73

PHYSICAL THERAPY AIDE

	All Facilities Surveyed	All Hospitals			Extended Care Facilities		VNAs	Clinical Labs.	Industrial Infirmaries	State (excl. Hosp.)	Other Employers (Total)
		General and VA Hospitals	Psych. Hosp.	Chronic Disease Hosp.	Nursing Homes	Rest Homes					
Full-time Employees	87	53	1	11	11	-	-	-	-	-	11
% female full-time	72.9	67.9	100	80.0	100						
Part-time employees	33	12	0	1	19						1
% female part-time	88.8	91.6	-	0	100						
Total number employed	120	65	1	12	30						12
Number employed-FTE	103.2	59.0	1.0	11.1	20.4						11.7
Vacancies-FTE	1.6	.5	0	1.1	0						0
Total Employment opportunities-FTE	104.8	59.5	1.0	12.2	20.4						11.7
Annual Turnover rate	30.0	19.1	0	57.1	50.0						
Employer Perceived Projections											
1975: Method A	139.2	65.0	1.0	14.3	40.7						18.2
Method B	146.6	68.5	1.0	14.3	42.9						19.9
Method C	151.8	68.5	1.0	14.3	48.1						19.9
1980: Method A	145.9	70.6	1.0	15.4	40.7						18.2
Method B	160.5	77.9	1.0	15.4	46.3						19.9
Method C	166.6	78.1	1.0	15.4	52.2						19.9

Table 73 (Cont'd.)

PHYSICAL THERAPY AIDE

	Other Employers								All Hosp.	ECFs (Nursing & rest homes)	State (including State Hosp.)
	Dental Labs.	NHC & HMO	School Infirmaries	Group Practices	Phys. Therapy Groups	Vol. Health Orgs.	Local Health Depts.	Drug Clinics			
Full-time Employees	-	-	-	-	8	3	-	-	65	11	2
% female full-time					100	0					
Part-time employees					1	0			13	19	0
% female part-time					100	-					
Total number employed					9	3			78	30	2
Number employed-FTE					9.0	2.7			71.1	20.4	2.0
Vacancies-FTE					0	0			1.6	0	1.0
Total Employment opportunities-FTE					9.0	2.7			72.7	20.4	3.0
Annual Turnover rate					18.1	100					
Employer Perceived Projections											
1975: Method A					10.2	8.0			80.3	40.7	
Method B					11.9	8.0			83.8	42.9	
Method C					11.9	8.0			83.8	48.1	
1980: Method A					10.2	8.0			87.0	40.7	
Method B					11.9	8.0			94.3	46.3	
Method C					11.9	8.0			94.5	52.2	

Occupational Therapy:

Three categories in the field of occupational therapy were investigated: occupational therapist, occupational therapy assistant, and occupational therapy aide.

Employment opportunities were reported for these occupations in a variety of settings: all hospitals, general, psychiatric, and chronic disease; nursing homes; visiting nurse associations; state agencies; NHC's and HMO's; and voluntary health organizations. Of the 221 employed, almost half were employed in psychiatric hospitals. Approximately 44% were employed in state agencies or state facilities.

Approximately one-fifth of those employed worked part-time. Although only eight were reported in nursing homes, all eight worked part-time, possibly following the trend observed in physical therapy and other fields.

A high vacancy rate, 11.3%, was observed. Of the 25.3 vacancies, 15.2 were reported in psychiatric hospitals, 1.0 in state agencies excluding hospitals. As 16.5 were reported in all state agencies including hospitals, it is possible that the majority of these vacancies are in the state psychiatric hospitals and could be due to the observed recent expansion in the Connecticut State Department of Mental Health.

Higher than average projections were reported by the employers: between 23.3% and 25.4% by 1975, and between 30.8% and 36.7% over current employment opportunities by 1980. The increases appear to be disbributed relatively evenly among the surveyed facilities.

Table 75 shows the relative proportions of the three occupations within the field. Occupational therapist is the largest with 54.3% of current employment opportunities. Occupational therapy assistants represent 31.4%, and occupational therapy aides represent 14.3%. Of the reported vacancies, 64% were for occupational therapists, 36% for OT assistants, and none for OT aides.

The projections indicate some slight change in the relative proportions of these occupations by 1980: Slight increases in the proportions of occupational therapists and occupational therapy assistants, and a slight decrease in the proportion of occupational therapy aides.

EMPLOYMENT PATTERNS OF SELECTED HEALTH OCCUPATIONS IN CONNECTICUT - SEPTEMBER 1973

Table 74

OCCUPATIONAL THERAPY

	All Facilities Surveyed	All Hospitals			Extended Care Facilities		VNAs	Clinical Labs.	Industrial Infirmaries	State (excl. Hosp.)	Other Employers (Total)
		General and VA Hospitals	Psych. Hosp.	Chronic Disease Hosp.	Nursing Homes	Rest Homes					
Full-time Employees	176	26	94	29	0	-	0	-	-	3	24
% female full-time											
Part-time employees	45	8	9	3	8		2			0	15
% female part-time											
Total number employed	221	34	103	32	8		2			3	39
Number employed-FTE	198.6	30.0	99.0	30.2	3.8		.8			3.0	31.8
Vacancies-FTE	25.3	2.0	15.2	2.7	0		0			1.0	4.4
Total Employment opportunities-FTE	223.9	32.0	114.2	32.9	3.8		.8			4.0	36.2
Annual Turnover rate											
Employer Perceived Projections											
1975: Method A	276.0	35.0	144.6	36.6	7.5		.8			6.0	45.5
Method B	280.7	35.0	145.4	36.5	7.5		.8			6.0	49.5
Method C	280.7	35.0	145.4	36.5	7.5		.8			6.0	49.5
1980: Method A	292.8	40.5	147.6	37.7	11.2		1.6			6.0	48.2
Method B	306.0	40.5	148.8	38.2	11.2		1.6			6.0	59.7
Method C	306.0	40.5	148.8	38.2	11.2		1.6			6.0	59.7

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Table 74 (Cont'd.) OCCUPATIONAL THERAPY	Other Employers								All Hosp.	ECFs (Nursing & rest homes)	State (including State Hosp.)
	Dental Labs.	NHC & HMO	School Infirmaries	Group Practices	Phys. Therapy Groups	Vol. Health Orgs.	Local Health Depts.	Drug Clinics			
Full-time Employees	-	0	-	-	-	24	-	-	149	0	97
% female full-time											
Part-time employees		2				13			20	8	1
% female part-time											
Total number employed		2				37			169	8	98
Number employed-FTE		1.1				30.7			159.2	3.8	97.5
Vacancies-FTE		4.4				0			19.9	0	16.5
Total Employment opportunities-FTE		5.5				30.7			179.1	3.8	114.0
Annual Turnover rate											
Employer Perceived Projections											
1975: Method A		5.5				40.0			216.2	7.5	
Method B		5.5				44.0			216.9	7.5	
Method C		5.5				44.0			216.9	7.5	
1980: Method A		5.5				42.7			225.8	11.2	
Method B		5.5				54.2			227.5	11.2	
Method C		5.5				54.2			227.5	11.2	

EMPLOYMENT PATTERNS OF SELECTED HEALTH OCCUPATIONS IN CONNECTICUT - SEPTEMBER 1973

Table 75 Occupational Therapy	Occupational Therapist	%	Occupational Therapy Assistant	%	Occupational Therapy Aide	%	Total
Full-time Employees	90	51.1	54	30.7	32	18.2	176
Part-time employees	31	68.9	14	31.1	0	--	45
Total number employed	121	54.7	68	30.8	32	14.5	221
Number employed-FTE	105.3	53.0	61.3	30.9	32.0	16.1	198.6
Vacancies-FTE	16.2	64.0	9.1	36.0	0	--	25.3
Total Employment opportunities-FTE	121.5	54.3	70.4	31.4	32.0	14.3	223.9
Employer Perceived Projections							
1975: Method A	152.4	55.2	91.6	33.2	32.0	11.6	276.0
Method B	157.0	55.9	91.7	32.7	32.0	11.4	280.7
Method C	157.0	55.9	91.7	32.7	32.0	11.4	280.7
1980: Method A	162.9	55.6	97.9	33.5	32.0	10.9	292.8
Method B	175.8	57.4	98.2	32.1	32.0	10.5	306.0
Method C	175.8	57.4	98.2	32.1	32.0	10.5	306.0

Occupational Therapist:

One hundred twenty-one occupational therapists were reported employed in the surveyed facilities. Employment opportunities for this occupation were found in general and VA hospitals, psychiatric hospitals, chronic disease hospitals, nursing homes, visiting nurse associations, state agencies, NHC's and HMO's, and voluntary health organizations. Of all those employed, almost one-quarter were employed by state agencies or state facilities.

Three-quarters of those employed worked full-time. Of those who were employed full-time, 82% were female; 89% of the part-time workers were female. A high vacancy rate, 13.3 was observed. The number of vacancies reported by both psychiatric hospitals and state agencies including hospitals suggests that many of these vacancies are due to expansion in the Connecticut State Department of Mental Health.

The annual turnover rate was 15.8.

The projections as perceived by the employer showed substantial, above average increases: between 25.4% and 29.2% by 1975, and between 34.1% and 44.7% over current employment opportunities by 1980. These increases were distributed relatively evenly throughout the reporting facilities.

Occupational Therapy Assistant:

Sixty-eight occupational therapy assistants were reported employed at the time of the survey. Employment opportunities for this occupation were reported in general and VA hospitals, psychiatric hospitals, chronic disease hospitals, nursing homes, state agencies and voluntary health organizations. Over half were employed in state agencies and state facilities.

Fourteen worked part-time, 54 full-time. Of the part-time workers, 80% were female; 76% of the full-time workers were female.

The vacancy rate was high at 12.9%. However, all of these vacancies were reported by state hospitals.

The turnover rate was low, 6.0.

The projections showed higher than average increases: Approximately 30% increase by 1975, and 39% increase over current employment opportunities by 1980.

Occupational Therapy Aide:

Thirty-two occupational therapy aides were reported at the time of the survey. All of them were employed in state psychiatric hospitals.

All worked full-time; 69% were female.

No vacancies were reported. The turnover rate was low at 3.1.

The projections indicated no change in employment opportunities for this profession. However, as discussed previously, it is often difficult for state agencies to project changes in employment.

EMPLOYMENT PATTERNS OF SELECTED HEALTH OCCUPATIONS IN CONNECTICUT - SEPTEMBER 1973

Table 76

OCCUPATIONAL THERAPIST

		All Hospitals			Extended Care Facilities						
	All Facilities Surveyed	General and VA Hospitals	Psych. Hosp.	Chronic Disease Hosp.	Nursing Homes	Rest Homes	VNAs	Clinical Labs.	Industrial Infirmaries	State (excl. Hosp.)	Other Employers (Total)
Full-time Employees	90	24	28	17	0	-	0	-	-	2	19
% female full-time	81.5	83.3	63.0	100	-		-			100	
Part-time employees	31	7	2	1	4		2			0	15
% female part-time	88.8	71.4	100	100	100		100			-	
Total number employed	121	31	30	18	4		2			2	34
Number employed-FTE	105.3	27.5	29.1	17.5	1.9		.8			2.0	26.5
Vacancies-FTE	16.2	2.0	7.2	1.6	0		0			1.0	4.4
Total Employment opportunities-FTE	121.5	29.5	36.3	19.1	1.9		.8			3.0	30.9
Annual Turnover rate	15.8	25.5	4.8	24.2	0		0			0	
Employer Perceived Projections											
1975: Method A	152.4	30.5	52.3	24.4	1.9		.8			5.0	37.5
Method B	157.0	30.5	52.9	24.4	1.9		.8			5.0	41.5
Method C	157.0	30.5	52.9	24.4	1.9		.8			5.0	41.5
1980: Method A	162.9	33.5	55.3	24.4	5.6		1.6			5.0	37.5
Method B	175.8	33.5	56.0	25.1	5.6		1.6			5.0	49.0
Method C	175.8	33.5	56.0	25.1	5.6		1.6			5.0	49.0

Table 76 (Cont'd.)

OCCUPATIONAL THERAPIST

	Other Employers								All Hosp.	ECFs (Nursing & rest homes)	State (including State Hosp.)
	Dental Labs.	NHC & HMO	School Infirmaries	Group Practices	Phys. Therapy Groups	Vol. Health Orgs.	Local Health Depts.	Drug Clinics			
Full-time Employees	-	0	-	-	-	19	-	-	69	0	29
% female full-time		-				100					
Part-time employees		2				13			10	4	0
% female part-time		100				100					
Total number employed		2				32			79	4	29
Number employed-FTE		1.1				25.4			74.1	1.9	29.0
Vacancies-FTE		4.4				0			10.8	0	7.5
Total Employment opportunities-FTE		5.5				25.4			84.9	1.9	36.5
Annual Turnover rate		0				0					
Employer Perceived Projections											
1975: Method A		5.5				32.0			107.2	1.9	
Method B		5.5				36.0			107.8	1.9	
Method C		5.5				36.0			107.8	1.9	
1980: Method A		5.5				32.0			113.2	5.6	
Method B		5.5				43.5			114.6	5.6	
Method C		5.5				43.5			114.6	5.6	

EMPLOYMENT PATTERNS OF SELECTED HEALTH OCCUPATIONS IN CONNECTICUT - SEPTEMBER 1973

Table 77

OCCUPATIONAL THERAPY ASSISTANT

	All Facilities Surveyed	All Hospitals			Extended Care Facilities		VNAs	Clinical Labs.	Industrial Infirmaries	State (excl. Hosp.)	Other Employers (Total)
		General and VA Hospitals	Psych. Hosp.	Chronic Disease Hosp.	Nursing Homes	Rest Homes					
Full-time Employees	54	2	34	12	0	-	-	-	-	1	5
% female full-time	75.5	100	75.7	72.7	-					100	
Part-time employees	14	1	7	2	4					0	0
% female part-time	80.0	100	66.6	100	100					-	
Total number employed	68	3	41	14	4					1	5
Number employed-FTE	61.3	2.5	37.9	12.7	1.9					1.0	5.3
Vacancies-FTE	9.1	0	8.0	1.1	0					0	0
Total Employment opportunities-FTE	70.4	2.5	45.9	13.8	1.9					1.0	5.3
Annual Turnover rate	6.0	0	5.8	8.3	0					0	
Employer Perceived Projections											
1975: Method A	91.6	4.5	60.3	12.2	5.6					1.0	8.0
Method B	91.7	4.5	60.5	12.1	5.6					1.0	8.0
Method C	91.7	4.5	60.5	12.1	5.6					1.0	8.0
1980: Method A	97.9	7.0	60.3	13.3	5.6					1.0	10.7
Method B	98.2	7.0	60.8	13.1	5.6					1.0	10.7
Method C	98.2	7.0	60.8	13.1	5.6					1.0	10.7

Table 77 (Cont'd.)

OCCUPATIONAL THERAPY ASSISTANT	Other Employers								All Hosp.	ECFs (Nursing & rest homes)	State (including State Hosp.)
	Dental Labs.	NHC & HMO	School Infirmaries	Group Practices	Phys. Therapy Groups	Vol. Health Orgs.	Local Health Depts.	Drug Clinics			
Full-time Employees	-	-	-	-	-	5	-	-	48	0	36
% female full-time						50.0					
Part-time employees						0			10	4	1
% female part-time						-					
Total number employed						5			58	4	37
Number employed-FTE						5.3			53.1	1.9	36.5
Vacancies-FTE						0			9.1	0	9.0
Total Employment opportunities-FTE						5.3			62.2	1.9	45.5
Annual Turnover rate						0					
Employer Perceived Projections											
1975: Method A						8.0			77.0	5.6	
Method B						8.0			77.1	5.6	
Method C						8.0			77.1	5.6	
1980: Method A						10.7			80.6	5.6	
Method B						10.7			80.9	5.6	
Method C						10.7			80.9	5.6	

EMPLOYMENT PATTERNS OF SELECTED HEALTH OCCUPATIONS IN CONNECTICUT - SEPTEMBER 1973

Table 78

OCCUPATIONAL THERAPY AIDE

	All Facilities Surveyed	All Hospitals			Extended Care Facilities		VNAs	Clinical Labs.	Industrial Infirmaries	State (excl. Hosp.)	Other Employers (Total)
		General and VA Hospitals	Psych. Hosp.	Chronic Disease Hosp.	Nursing Homes	Rest Homes					
Full-time Employees	32	-	32	-	-	-	-	-	-	-	-
% female full-time	68.7		68.7								
Part-time employees	0		0								
% female part-time	-		-								
Total number employed	32		32								
Number employed-FTE	32.0		32.0								
Vacancies-FTE	0		0								
Total Employment opportunities-FTE	32.0		32.0								
Annual Turnover rate	3.1		3.1								
Employer Perceived Projections											
1975: Method A	32.0		32.0								
Method B	32.0		32.0								
Method C	32.0		32.0								
1980: Method A	32.0		32.0								
Method B	32.0		32.0								
Method C	32.0		32.0								

Table 78 (Cont'd.)

OCCUPATIONAL THERAPY AIDE

	Other Employers								All Hosp.	ECFs (Nursing & rest homes)	State (including State Hosp.)
	Dental Labs.	NHC & HMO	School Infirmaries	Group Practices	Phys. Therapy Groups	Vol. Health Orgs.	Local Health Depts.	Drug Clinics			
Full-time Employees	-	-	-	-	-	-	-	-	32	-	32
% female full-time									68.7		
Part-time employees									0		0
% female part-time									-		
Total number employed									32		32
Number employed-FTE									32.0		32.0
Vacancies-FTE									0		0
Total Employment opportunities-FTE									32.0		32.0
Annual Turnover rate											
Employer Perceived Projections											
1975: Method A									32.0		
Method B									32.0		
Method C									32.0		
1980: Method A									32.0		
Method B									32.0		
Method C									32.0		

Recreation Therapy:

Four different occupations in recreation therapy were investigated: Recreation therapist, recreation therapy assistant, recreation worker, and recreation aide. These latter two occupations were reported only by one state psychiatric hospital. However, as it appears that these classification are indeed different from recreation therapist and recreation therapy assistant, they were included as separate categories.

Three hundred seventeen people were employed in this field in the surveyed facilities. Over three-quarters of these were employed in nursing homes. Employment opportunities were also found in general and VA hospitals, psychiatric hospitals, chronic disease hospitals, and state agencies. Both industrial infirmaries and voluntary health organizations expected to have employment opportunities in this field by 1975.

Of the 317 employed, 77, or almost a quarter, worked part-time. Seventy of these were employed in nursing homes.

At the time of the survey, 7.3 vacancies were reported giving a low vacancy rate of 2.5%. Most of these vacancies were reported in psychiatric hospitals.

The projections as perceived by the employer showed larger than average increases in the employment opportunities in this field: between 24.2% and 41.1% by 1975, and between 26.2% and 45.3% over current employment opportunities by 1980.

Table 80 shows the relative proportions of the occupations within this field. Recreation therapists are the largest group with 77.0% of the current employment opportunities. Recreation therapy assistants hold 18.1% of the current employment opportunities. The projections indicate however, that by 1980 the proportion of recreation therapists will have dropped to approximately 73%, while that of recreation therapy assistants will have increased to 22%, indicating a higher degree of utilization of the latter occupation.

EMPLOYMENT PATTERNS OF SELECTED HEALTH OCCUPATIONS IN CONNECTICUT - SEPTEMBER 1973

Table 79

RECREATION THERAPY

	All Facilities Surveyed	All Hospitals			Extended Care Facilities		VNAs	Clinical Labs.	Industrial Infirmaries	State (excl. Hosp.)	Other Employers (Total)
		General and VA Hospitals	Psych. Hosp.	Chronic Disease Hosp.	Nursing Homes	Rest Homes					
Full-time Employees	240	11	37	5	181	-	-	-	0	6	0
% female full-time											
Part-time employees	77	1	4	2	70				0	0	0
% female part-time											
Total number employed	317	12	41	7	251				0	6	0
Number employed-FTE	279.4	11.5	39.0	6.4	216.5				0	6.0	0
Vacancies-FTE	7.3	.5	5.8	0	0				0	1.0	0
Total Employment opportunities-FTE	286.7	12.0	44.8	6.4	216.5				0	7.0	0
Annual Turnover rate											
Employer Perceived Projections											
1975: Method A	356.0	17.5	63.5	8.4	253.5				3.4	7.0	2.7
Method B	377.8	17.5	65.7	8.4	273.1				3.4	7.0	2.7
Method C	404.4	17.5	65.7	8.4	299.7				3.4	7.0	2.7
1980: Method A	361.7	20.5	64.4	8.4	255.3				3.4	7.0	2.7
Method B	388.9	20.5	66.8	8.4	280.1				3.4	7.0	2.7
Method C	416.7	20.5	66.8	8.4	307.9				3.4	7.0	2.7

Table 79 (Cont'd.) RECREATION THERAPY	Other Employers								All Hosp.	ECFs (Nursing & rest homes)	State (including State Hosp.)
	Dental Labs.	NHC & HMO	School Infirmaries	Group Practices	Phys. Therapy Groups	Vol. Health Orgs.	Local Health Depts.	Drug Clinics			
Full-time Employees	-	-	-	-	-	0	-	-	53	181	37
% female full-time											
Part-time employees						0			7	70	4
% female part-time											
Total number employed						0			60	251	41
Number employed-FTE						0			56.9	216.5	39.0
Vacancies-FTE						0			6.3	0	5.0
Total Employment opportunities-FTE						0			63.2	216.5	44.0
Annual Turnover rate											
Employer Perceived Projections											
1975: Method A						2.7			89.4	253.5	
Method B						2.7			91.6	273.1	
Method C						2.7			91.6	299.7	
1980: Method A						2.7			93.3	255.3	
Method B						2.7			95.7	280.1	
Method C						2.7			95.7	307.9	

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EMPLOYMENT PATTERNS OF SELECTED HEALTH OCCUPATIONS IN CONNECTICUT - SEPTEMBER 1973

Table 80

Recreation Therapy	Recreation Therapist	%	Recreation Therapy Assistant	%	Recreation Worker	%	Recreation Aide	%	Total
Full-time Employees	201	83.7	27	11.2	9	3.8	3	1.3	240
Part-time employees	37	48.0	36	46.8	2	2.6	2	2.6	77
Total number employed	238	75.1	63	19.9	11	3.4	5	1.6	317
Number employed-FTE	219.9	78.7	45.5	16.3	10.0	3.6	4.0	1.4	279.4
Vacancies-FTE	1.0	13.7	6.3	86.3	0	--	0	--	7.3
Total Employment opportunities-FTE	220.9	77.0	51.8	18.1	10.0	3.5	4.0	1.4	286.7
Employer Perceived Projections									
1975: Method A	265.9	74.7	70.1	19.7	13.0	3.6	7.0	2.0	356.0
Method B	276.2	73.1	81.6	21.6	13.0	3.4	7.0	1.9	377.8
Method C	289.1	71.5	95.3	23.6	13.0	3.2	7.0	1.7	404.4
1980: Method A	269.1	74.4	72.6	20.1	13.0	3.6	7.0	1.9	361.7
Method B	283.6	72.9	85.3	21.9	13.0	3.4	7.0	1.8	388.9
Method C	297.7	71.4	99.0	23.8	13.0	3.1	7.0	1.7	416.7

Recreation Therapist:

At the time of the survey, 238 recreation therapists were employed in facilities. Over 85% were employed in nursing homes; the rest were employed in general and VA hospitals, psychiatric hospitals, chronic disease hospitals, and state agencies. The projections indicate that employment opportunities could also be found in industrial infirmaries and voluntary health organizations by 1980.

Of the 238 employed, 37 worked part-time, all of them in nursing homes. A larger proportion of the part-time workers, 89%, were female, than of the full-time workers, 71%.

Only one vacancy was reported, giving a very low vacancy rate. The annual turnover rate was also low at 7.4.

Higher than average projections were given by the employers: between 20.4% and 30.9% by 1975, and between 21.8% and 34.8% over current employment opportunities by 1980.

Recreation Therapy Assistant:

Sixty-three recreation therapy assistants were reported employed in the surveyed facilities. The current employment distribution is similar to that found for recreation therapists.

Over half of those employed worked part-time, the majority in nursing homes. All of the part-time workers were female, but only half of the full-time workers were female.

A high vacancy rate, 12.2% was observed. Most of the vacancies were reported in psychiatric hospitals. The turnover rate was close to average at 19.3.

Higher than average projections were reported: between 35.3% and 84.0% by 1975, and between 40.2% and 91.1% by 1980.

Recreation Worker and Aide:

Tables 83 and 84 present data for recreation worker and aide. These occupations were reported only by one state psychiatric hospital. This hospital employed 16 people in these occupations at the time of the survey. It is anticipated that this number will increase to 20 by 1975.

EMPLOYMENT PATTERNS OF SELECTED HEALTH OCCUPATIONS IN CONNECTICUT - SEPTEMBER 1973

Table 81
RECREATION THERAPIST

	All Facilities Surveyed	All Hospitals			Extended Care Facilities		VNAs	Clinical Labs.	Industrial Infirmaries	State (excl. Hosp.)	Other Employers (Total)
		General and VA Hospitals	Psych. Hosp.	Chronic Disease Hosp.	Nursing Homes	Rest Homes					
Full-time Employees	201	10	15	3	170	-	-	-	0	3	0
% female full-time	70.8	50	21.4	100	92.8					33.3	
Part-time employees	37	0	0	0	37				0	0	0
% female part-time	88.8	-	-	-	88.8					-	
Total number employed	238	10	15	3	207				0	3	0
Number employed-FTE	219.9	10.0	15.0	3.2	188.7				0	3.0	0
Vacancies-FTE	1.0	0	1.0	0	0				0	0	0
Total Employment opportunities-FTE	220.9	10.0	16.0	3.2	188.7				0	3.0	0
Annual Turnover rate	7.4	12.5	0	16.6	5.1					33.3	
Employer Perceived Projections											
1975: Method A	265.9	14.0	22.1	4.2	216.5				3.4	3.0	2.7
Method B	276.2	14.0	24.3	4.2	224.6				3.4	3.0	2.7
Method C	289.1	14.0	24.3	4.2	237.5				3.4	3.0	2.7
1980: Method A	269.1	16.5	21.0	4.2	218.3				3.4	3.0	2.7
Method B	283.6	16.5	22.2	4.2	231.6				3.4	3.0	2.7
Method C	297.7	16.5	22.2	4.2	245.7				3.4	3.0	2.7

Table 81 (Cont'd.)

RECREATION THERAPIST

	Other Employers								All Hosp.	ECFs (Nursing & rest homes)	State (including State Hosp.)
	Dental Labs.	NHC & HMO	School Infirmaries	Group Practices	Phys. Therapy Groups	Vol. Health Orgs.	Local Health Depts.	Drug Clinics			
Full-time Employees	-	-	-	-	-	0	-	-	28	170	12
% female full-time											
Part-time employees						0			0	37	0
% female part-time											
Total number employed						0			28	207	12
Number employed-FTE						0			28.2	188.7	12.0
Vacancies-FTE						0			1.0	0	1.0
Total Employment opportunities-FTE						0			29.2	188.7	13.0
Annual Turnover rate											
Employer Perceived Projections											
1975: Method A						2.7			40.3	216.5	
Method B						2.7			42.5	224.6	
Method C						2.7			42.5	237.5	
1980: Method A						2.7			41.7	218.3	
Method B						2.7			42.9	231.6	
Method C						2.7			42.9	245.7	

EMPLOYMENT PATTERNS OF SELECTED HEALTH OCCUPATIONS IN CONNECTICUT - SEPTEMBER 1973

Table 82

RECREATION THERAPY ASSISTANT

	All Facilities Surveyed	All Hospitals			Extended Care Facilities		VNAs	Clinical Labs.	Industrial Infirmaries	State (excl. Hosp.)	Other Employers (Total)
		General and VA Hospitals	Psych. Hosp.	Chronic Disease Hosp.	Nursing Homes	Rest Homes					
Full-time Employees	27	1	10	2	11	-	-	-	-	3	-
% female full-time	50	100	40	50	100					33.3	
Part-time employees	36	1	0	2	33					0	
% female part-time	100	100	-	100	100					-	
Total number employed	63	2	10	4	44					3	
Number employed-FTE	45.5	1.5	10.0	3.2	27.8					3.0	
Vacancies-FTE	6.3	.5	4.8	0	0					1.0	
Total Employment opportunities-FTE	51.8	2.0	14.8	3.2	27.8					4.0	
Annual Turnover rate	19.3	0	0	0	50.0					66.6	
Employer Perceived Projections											
1975: Method A	70.1	3.5	21.4	4.2	37.0					4.0	
Method B	81.6	3.5	21.4	4.2	48.5					4.0	
Method C	95.3	3.5	21.4	4.2	62.2					4.0	
1980: Method A	72.6	4.0	23.4	4.2	37.0					4.0	
Method B	85.3	4.0	24.6	4.2	48.5					4.0	
Method C	99.0	4.0	24.6	4.2	62.2					4.0	

Table 82 (Cont'd.)

RECREATION THERAPY ASSISTANT

	Other Employers								All Hosp.	ECFs (Nursing & rest homes)	State (including State Hosp.)
	Dental Labs.	NHC & HMO	School Infirmaries	Group Practices	Phys. Therapy Groups	Vol. Health Orgs.	Local Health Depts.	Drug Clinics			
Full-time Employees	-	-	-	-	-	-	-	-	13	11	13
% female full-time									3	33	0
Part-time employees											
% female part-time									16	44	13
Total number employed									14.7	27.8	13.0
Number employed-FTE									5.3	0	4.0
Vacancies-FTE									20.0	27.8	17.0
Total Employment opportunities-FTE											
Annual Turnover rate											
Employer Perceived Projections											
1975: Method A									29.1	37.0	
Method B									29.1	48.5	
Method C									29.1	62.2	
1980: Method A									31.6	37.0	
Method B									32.8	48.5	
Method C									32.8	62.2	

EMPLOYMENT PATTERNS OF SELECTED HEALTH OCCUPATIONS IN CONNECTICUT - SEPTEMBER 1973

Table 83

RECREATION WORKER

	All Facilities Surveyed	All Hospitals			Extended Care Facilities		VNAs	Clinical Labs.	Industrial Infirmaries	State (excl. Hosp.)	Other Employers (Total)
		General and VA Hospitals	Psych. Hosp.	Chronic Disease Hosp.	Nursing Homes	Rest Homes					
Full-time Employees	9	-	9	-	-	-	-	-	-	-	-
% female full-time	55.5		55.5								
Part-time employees	2		2								
% female part-time	100		100								
Total number employed	11		11								
Number employed-FTE	10.0		10.0								
Vacancies-FTE	0		0								
Total Employment opportunities-FTE	10.0		10.0								
Annual Turnover rate	0		0								
Employer Perceived Projections											
1975: Method A	13.0		13.0								
Method B	13.0		13.0								
Method C	13.0		13.0								
1980: Method A	13.0		13.0								
Method B	13.0		13.0								
Method C	13.0		13.0								

Table 83 (Cont'd.)

RECREATION WORKER

	Other Employers								All Hosp.	ECFs (Nursing & rest homes)	State (including State Hosp.)
	Dental Labs.	NHC & HMO	School Infirmaries	Group Practices	Phys. Therapy Groups	Vol. Health Orgs.	Local Health Depts.	Drug Clinics			
Full-time Employees	-	-	-	-	-	-	-	-	9	-	9
% female full-time											
Part-time employees									2		2
% female part-time											
Total number employed									11		11
Number employed-FTE									10.0		10.0
Vacancies-FTE									0		0
Total Employment opportunities-FTE									10.0		10.0
Annual Turnover rate											
Employer Perceived Projections											
1975: Method A									13.0		
Method B									13.0		
Method C									13.0		
1980: Method A									13.0		
Method B									13.0		
Method C									13.0		

EMPLOYMENT PATTERNS OF SELECTED HEALTH OCCUPATIONS IN CONNECTICUT - SEPTEMBER 1973

Table 84

RECREATION AIDE

	All Facilities Surveyed	All Hospitals			Extended Care Facilities		VNAs	Clinical Labs.	Industrial Infirmaries	State (excl. Hosp.)	Other Employers (Total)
		General and VA Hospitals	Psych. Hosp.	Chronic Disease Hosp.	Nursing Homes	Rest Homes					
Full-time Employees	3	-	3	-	-	-	-	-	-	-	-
% female full-time	33.3		33.3								
Part-time employees	2		2								
% female part-time	100		100								
Total number employed	5		5								
Number employed-FTE	4.0		4.0								
Vacancies-FTE	0		0								
Total Employment opportunities-FTE	4.0		4.0								
Annual Turnover rate	50.0		50.0								
Employer Perceived Projections											
1975: Method A	7.0		7.0								
Method B	7.0		7.0								
Method C	7.0		7.0								
1980: Method A	7.0		7.0								
Method B	7.0		7.0								
Method C	7.0		7.0								

Table 84 (Cont'd.)

RECREATION AIDE

	Other Employers								All Hosp.	ECFs (Nursing & rest homes)	State (including State Hosp.)
	Dental Labs.	NHC & HMO	School Infirmaries	Group Practices	Phys. Therapy Groups	Vol. Health Orgs.	Local Health Depts.	Drug Clinics			
Full-time Employees	-	-	-	-	-	-	-	-	3	-	3
% female full-time											
Part-time employees									2		2
% female part-time											
Total number employed									5		5
Number employed-FTE									4.0		4.0
Vacancies-FTE									0		0
Total Employment opportunities-FTE									4.0		4.0
Annual Turnover rate											
Employer Perceived Projections											
1975: Method A									7.0		
Method B									7.0		
Method C									7.0		
1980: Method A									7.0		
Method B									7.0		
Method C									7.0		

13. Respiratory Therapy: (tables 85 - 89)

Three occupations in the field of respiratory therapy were studied in this survey: respiratory therapist, respiratory therapy technician, and pulmonary function technician.

A total of 486 people were employed in this field at the time of the survey. Almost 95% of these were employed in general and VA hospitals. The remaining employment opportunities were found in chronic disease hospitals and nursing homes. A larger than average proportion of these people worked full-time with only 14% working part-time. The vacancy rate was average at 4.7%. All of the 22.1 vacancies reported were found in general or VA hospitals.

The projections showed average increases for 1975, but higher than average increases for 1980: between 13.8% and 17.6% for 1975, and between 31.1% and 39.4% over current employment opportunities for 1980.

There were roughly equal numbers of respiratory therapists and respiratory therapy technicians reported. Both occupations represented approximately 44% of the current employment opportunities in the field. Pulmonary function technicians, the smallest of the three, represented only 11.5% of the current employment opportunities.

The projections show that similar proportions can be expected in 1980.

EMPLOYMENT PATTERNS OF SELECTED HEALTH OCCUPATIONS IN CONNECTICUT - SEPTEMBER 1973

Table 85

RESPIRATORY THERAPY

	All Facilities Surveyed	All Hospitals			Extended Care Facilities		VNAs	Clinical Labs.	Industrial Infirmaries	State (excl. Hosp.)	Other Employers (Total)
		General and VA Hospitals	Psych. Hosp.	Chronic Disease Hosp.	Nursing Homes	Rest Homes					
Full-time Employees	420	400	-	20	0	-	-	-	-	-	-
% female full-time											
Part-time employees	66	59		3	4						
% female part-time											
Total number employed	486	459		23	4						
Number employed-FTE	453.1	429.5		21.7	1.9						
Vacancies-FTE	22.1	22.1		0	0						
Total Employment opportunities-FTE	475.2	451.6		21.7	1.9						
Annual Turnover rate											
Employer Perceived Projections											
1975: Method A	540.6	494.5		42.4	3.7						
Method B	551.9	505.8		42.4	3.7						
Method C	559.0	512.9		42.4	3.7						
1980: Method A	622.9	572.6		46.6	3.7						
Method B	653.1	602.8		46.6	3.7						
Method C	662.3	612.9		46.6	3.7						

Table 85 (Cont'd.)

RESPIRATORY THERAPY

	Other Employers								All Hosp.	ECFs (Nursing & rest homes)	State (including State Hosp.)
	Dental Labs.	NHC & HMO	School Infirmaries	Group Practices	Phys. Therapy Groups	Vol. Health Orgs.	Local Health Depts.	Drug Clinics			
Full-time Employees	-	-	-	-	-	-	-	-	420	0	8
% female full-time											
Part-time employees									62	4	0
% female part-time											
Total number employed									482	4	8
Number employed-FTE									451.2	1.9	8.0
Vacancies-FTE									22.1	0	0
Total Employment opportunities-FTE									473.3	1.9	8.0
Annual Turnover rate											
Employer Perceived Projections											
1975: Method A									536.9	3.7	
Method B									548.2	3.7	
Method C									555.3	3.7	
1980: Method A									619.2	3.7	
Method B									649.4	3.7	
Method C									658.6	3.7	

EMPLOYMENT PATTERNS OF SELECTED HEALTH OCCUPATIONS IN CONNECTICUT - SEPTEMBER 1973

Table 86

Respiratory Therapy	Respiratory Therapist	%	Respiratory Therapy Technician	%	Pulmonary Function Technician	%	Total
Full-time Employees	184	43.8	186	44.3	50	11.9	420
Part-time employees	23	34.9	34	51.5	9	13.6	66
Total number employed	207	42.6	220	45.3	59	12.1	486
Number employed-FTE	195.2	43.1	203.4	44.9	54.5	12.0	453.1
Vacancies-FTE	16.1	72.8	5.7	25.8	.3	1.4	22.1
Total Employment opportunities-FTE	211.3	44.5	209.1	44.0	54.8	11.5	475.2
Employer Perceived Projections							
1975: Method A	237.5	43.9	239.3	44.3	63.8	11.8	540.6
Method B	243.8	44.2	243.8	44.2	64.3	11.6	551.9
Method C	243.8	43.6	243.9	43.6	71.3	12.8	559.0
1980: Method A	274.0	44.0	278.1	44.6	70.8	11.4	622.9
Method B	291.4	44.6	289.7	44.4	72.0	11.0	653.1
Method C	291.8	44.1	291.5	44.0	79.0	11.9	662.3

Respiratory Therapist:

Two hundred seven respiratory therapists were reported employed in health care facilities. This occupation is primarily employed in hospitals, either general or chronic disease, but apparently there are also a few opportunities for employment in nursing homes.

Only 11% of these people were employed part-time. The proportion of females was low in comparison to most of the other health occupations studied: 45.9% for full-time workers, 50% for part-time workers.

The vacancy rate was higher than average at 7.6%. The annual turnover rate was close to average at 23.7.

The projections showed a higher than average increase: between 12.4% and 15.4% in 1975, and between 29.7% and 38.1% in 1980.

Respiratory Therapy Technician:

The employment patterns of the respiratory therapy technicians are similar to those of respiratory therapists. Employment opportunities are mainly in general hospitals with some reported in chronic disease hospitals.

Of the 220 employed, only 34 or 16% worked part-time. The proportion of females was lower than average but was higher than that of respiratory therapists: 55.7% for full-time workers, 69.6% for part-time workers.

Unlike respiratory therapists, the vacancy rate for the technicians was low at 2.7%. However, there was a high annual turnover rate, at 34.0.

The projections as perceived by the employer showed higher than average rates, similar to those for respiratory therapists: between 14.4% and 16.6% for 1975, and between 33% and 39.4% over current employment opportunities for 1980.

Pulmonary Function Technician:

Pulmonary function technicians are currently employed only in general and VA hospitals. However, some employment opportunities are projected in chronic disease hospitals.

Currently, 59 are employed, 50 full-time and 9 part-time. Only 51% of the full-time workers were female; none of the part-time workers were female.

Only 0.3 FTE vacancies were reported representing a very low vacancy rate of 0.5%. The annual turnover rate was average at 21.8.

As with the other occupations in this field, the projections were higher than average: between 16.4% and 30.1% for 1975, and between 29.2% to 44.2% for 1980.

EMPLOYMENT PATTERNS OF SELECTED HEALTH OCCUPATIONS IN CONNECTICUT - SEPTEMBER 1973

Table 87

RESPIRATORY THERAPIST

	All Facilities Surveyed	All Hospitals			Extended Care Facilities		VNAs	Clinical Labs.	Industrial Infirmaries	State (excl. Hosp.)	Other Employers (Total)
		General and VA Hospitals	Psych. Hosp.	Chronic Disease Hosp.	Nursing Homes	Rest Homes					
Full-time Employees	184	170	-	14	0	-	-	-	-	-	-
% female full-time	45.9	45.2		53.8	-						
Part-time employees	23	17		2	4						
% female part-time	50.0	47.0		50	100						
Total number employed	207	187		16	4						
Number employed-FTE	195.2	178.5		14.8	1.9						
Vacancies-FTE	16.1	16.1		0	0						
Total Employment opportunities-FTE	211.3	194.6		14.8	1.9						
Annual Turnover rate	23.7	22.8		32.1	0						
Employer Perceived Projections											
1975: Method A	237.5	213.7		20.1	3.7						
Method B	243.8	220.0		20.1	3.7						
Method C	243.8	220.0		20.1	3.7						
1980: Method A	274.0	247.0		23.3	3.7						
Method B	291.4	264.4		23.3	3.7						
Method C	291.8	264.8		23.3	3.7						

Table 87 (Cont'd.) RESPIRATORY THERAPIST	Other Employers								All Hosp.	ECFs (Nursing & rest homes)	State (including State Hosp.)
	Dental Labs.	NHC & HMO	School Infirmaries	Group Practices	Phys. Therapy Groups	Vol. Health Orgs.	Local Health Depts.	Drug Clinics			
Full-time Employees	-	-	-	-	-	-	-	-	184	0	6
% female full-time											
Part-time employees									19	4	0
% female part-time											
Total number employed									203	4	6
Number employed-FTE									193.3	1.9	6.0
Vacancies-FTE									16.1	0	0
Total Employment opportunities-FTE									209.4	1.9	6.0
Annual Turnover rate											
Employer Perceived Projections											
1975: Method A									233.8	3.7	
Method B									240.1	3.7	
Method C									240.1	3.7	
1980: Method A									270.3	3.7	
Method B									287.7	3.7	
Method C									288.1	3.7	

EMPLOYMENT PATTERNS OF SELECTED HEALTH OCCUPATIONS IN CONNECTICUT - SEPTEMBER 1973

Table 88

RESPIRATORY THERAPY TECHNICIAN

	All Facilities Surveyed	All Hospitals			Extended Care Facilities		VNAs	Clinical Labs.	Industrial Infirmaries	State (excl. Hosp.)	Other Employers (Total)
		General and VA Hospitals	Psych. Hosp.	Chronic Disease Hosp.	Nursing Homes	Rest Homes					
Full-time Employees	186	180	-	6	-	-	-	-	-	-	-
% female full-time	55.7	57.1		16.6							
Part-time employees	34	33		1							
% female part-time	69.6	68.8		100							
Total number employed	220	213		7							
Number employed-FTE	203.4	196.5		6.9							
Vacancies-FTE	5.7	5.7		0							
Total Employment opportunities-FTE	209.1	202.2		6.9							
Annual Turnover rate	34.0	34.4		30.7							
Employer Perceived Projections											
1975: Method A	239.3	220.2		19.1							
Method B	243.8	224.7		19.1							
Method C	243.9	224.8		19.1							
1980: Method A	278.1	258.0		20.1							
Method B	289.7	269.6		20.1							
Method C	291.5	271.4		20.1							

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Table 88 (Cont'd.)

RESPIRATORY THERAPY TECHNICIAN

	Other Employers										
	Dental Labs.	NHC & HMO	School Infirmaries	Group Practices	Phys. Therapy Groups	Vol. Health Orgs.	Local Health Depts.	Drug Clinics	All Hosp.	ECFs (Nursing & rest homes)	State (including State Hosp.)
Full-time Employees	-	-	-	-	-	-	-	-	186	-	2
% female full-time											
Part-time employees									34		0
% female part-time											
Total number employed									220		2
Number employed-FTE									203.4		2.0
Vacancies-FTE									5.7		0
Total Employment opportunities-FTE									209.1		2.0
Annual Turnover rate											
Employer Perceived Projections											
1975: Method A									239.3		
Method B									243.8		
Method C									243.9		
1980: Method A									278.1		
Method B									289.7		
Method C									291.5		

EMPLOYMENT PATTERNS OF SELECTED HEALTH OCCUPATIONS IN CONNECTICUT - SEPTEMBER 1973

Table 89

PULMONARY FUNCTION TECHNICIAN

	All Facilities Surveyed	All Hospitals			Extended Care Facilities		VNAs	Clinical Labs.	Industrial Infirmaries	State (excl. Hosp.)	Other Employers (Total)
		General and VA Hospitals	Psych. Hosp.	Chronic Disease Hosp.	Nursing Homes	Rest Homes					
Full-time Employees	50	50	-	0	-	-	-	-	-	-	-
% female full-time	51.0	51.0		-							
Part-time employees	9	9		0							
% female part-time	0	0		-							
Total number employed	59	59		0							
Number employed-FTE	54.5	54.5		0							
Vacancies-FTE	.3	.3		0							
Total Employment opportunities-FTE	54.8	54.8		0							
Annual Turnover rate	21.8	21.8		0							
Employer Perceived Projections											
1975: Method A	63.8	60.6		3.2							
Method B	64.3	61.1		3.2							
Method C	71.3	68.1		3.2							
1980: Method A	70.8	67.6		3.2							
Method B	72.0	68.8		3.2							
Method C	79.0	75.8		3.2							

Table 89 (Cont'd.)

PULMONARY FUNCTION TECHNICIAN

	Other Employers										
	Dental Labs.	NHC & HMO	School Infirmaries	Group Practices	Phys. Therapy Groups	Vol. Health Orgs.	Local Health Depts.	Drug Clinics	All Hosp.	ECFs (Nursing & rest homes)	State (including State Hosp.)
Full-time Employees	-	-	-	-	-	-	-	-	50	-	-
% female full-time											
Part-time employees									9		
% female part-time											
Total number employed									59		
Number employed-FTE									54.5		
Vacancies-FTE									.3		
Total Employment opportunities-FTE									54.8		
Annual Turnover rate											
Employer Perceived Projections											
1975: Method A									63.8		
Method B									64.3		
Method C									71.3		
1980: Method A									70.8		
Method B									72.0		
Method C									79.0		

14. Social Services: (tables 90 - 99)

Four occupations in the field of social services were investigated in this survey: Social worker (both MSW and BS), social service aide, community health aide, and mental health worker.

Eight hundred fifty-nine people were employed in these occupations in the surveyed facilities. Approximately 28% of these were employed in general and VA hospitals. Psychiatric hospitals also employed a significant number. Employment opportunities for these occupations were also reported in chronic disease hospitals, nursing homes, rest homes with nursing supervision, VNA's, state agencies, NHC's and HMO's, voluntary health organizations, local health departments, and drug clinics. Approximately 20% were employed in state agencies and state facilities. One-third of those employed worked part-time.

The vacancy rate, 9.2%, was higher than average. The majority of vacancies were reported in psychiatric hospitals and NHC's and HMO's. As is explained in the individual occupational profiles, because of their skewed distribution, this large number of vacancies is probably due partly to the recent expansion in the Connecticut State Department of Mental Health, and partly to a recent expansion in NHC's and HMO's rather than an actual shortage of personnel in this field.

Very large increases in employment opportunities in this field were projected: between 28.3% and 39.6% for 1975, and between 51.3% and 76.5% over current employment opportunities by 1980. The projected increases appear to be distributed uniformly throughout the facilities showing substantial increases.

Table 91 shows the relative proportions of the occupations in this field. As can be seen, social workers form the largest group with 77.6% of all current employment opportunities in the field. Mental health workers and social service aides are both about 9%, community health aides represent roughly 5%.

The projected proportions show community health aide remaining at 5%, social service aide decreasing slightly, social worker decreasing to a greater extent to approximately 70%, and an increase in mental health worker to between 16% and 20% of the total employment opportunities, thus becoming a more prominent occupation in this field.

EMPLOYMENT PATTERNS OF SELECTED HEALTH OCCUPATIONS IN CONNECTICUT - SEPTEMBER 1973

Table 90

SOCIAL SERVICES

	All Facilities Surveyed	All Hospitals			Extended Care Facilities		VNAs	Clinical Labs.	Industrial Infirmaries	State (excl. Hosp.)	Other Employers (Total)
		General and VA Hospitals	Psych. Hosp.	Chronic Disease Hosp.	Nursing Homes	Rest Homes					
Full-time Employees	576	205	174	18	18	0	5	-	-	25	131
% female full-time											
Part-time employees	283	37	19	0	126	8	11			4	78
% female part-time											
Total number employed	859	242	193	18	144	8	16			29	209
Number employed-FTE	719.5	223.5	183.7	18.0	81.5	3.6	10.2			27.0	172.0
Vacancies-FTE	72.6	5.0	37.2	1.1	1.8	0	0			2.0	25.5
Total Employment opportunities-FTE	792.1	228.5	220.9	19.1	83.3	3.6	10.2			29.0	197.5
Annual Turnover rate											
Employer Perceived Projections											
1975: Method A	1016.9	264.2	307.0	25.5	105.5	3.6	11.8			34.5	264.8
Method B	1092.3	283.2	324.5	25.5	119.6	3.6	11.8			37.0	287.1
Method C	1105.8	285.2	324.5	25.5	126.2	3.6	11.8			37.0	292.0
1980: Method A	1198.2	288.7	356.2	30.7	122.2	3.6	15.8			36.5	304.5
Method B	1324.0	318.7	406.2	33.9	151.0	3.6	15.8			47.8	347.0
Method C	1397.8	321.0	458.3	33.9	162.8	3.6	15.8			47.8	354.6

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Table 90 (Cont'd.) SOCIAL SERVICES	Other Employers								All Hosp.	ECFs (Nursing & rest homes)	State (including State Hosp.)
	Dental Labs.	NHC & HMO	School Infirmaries	Group Practices	Phys. Therapy Groups	Vol. Health Orgs.	Local Health Depts.	Drug Clinics			
Full-time Employees	-	39	-	-	-	27	28	37	397	18	158
% female full-time											
Part-time employees		28				13	0	37	56	134	11
% female part-time											
Total number employed		67				40	28	74	453	152	169
Number employed-FTE		53.9				33.4	28.0	56.7	425.2	85.1	163.5
Vacancies-FTE		24.2				1.3	0	0	43.3	1.8	39.0
Total Employment opportunities-FTE		78.1				34.7	28.0	56.7	468.5	86.9	202.5
Annual Turnover rate											
Employer Perceived Projections											
1975: Method A		90.2				49.4	28.0	97.2	596.7	109.1	
Method B		100.5				61.4	28.0	97.2	633.2	123.2	
Method C		100.5				61.4	28.0	102.1	635.2	129.8	
1980: Method A		105.6				52.1	28.0	118.8	715.6	125.8	
Method B		133.5				66.7	28.0	118.8	758.8	154.6	
Method C		133.5				66.7	28.0	126.4	813.2	166.4	

EMPLOYMENT PATTERNS OF SELECTED HEALTH OCCUPATIONS IN CONNECTICUT - SEPTEMBER 1973

Table 91

Social Services

	Social Worker (Total)	%	Social Service Aide	%	Community Health Aide	%	Mental Health Worker	%	Total
Full-time Employees	448	77.8	36	6.2	35	6.1	57	9.9	576
Part-time employees	217	76.7	48	17.0	4	1.4	14	4.9	283
Total number employed	665	77.4	84	9.8	39	4.5	71	8.3	859
Number employed-FTE	556.5	77.4	61.2	8.5	36.9	5.1	64.9	9.0	719.5
Vacancies-FTE	58.1	80.0	7.9	10.9	0	-	6.6	9.1	72.6
Total Employment opportunities-FTE	614.6	77.6	69.1	8.7	36.9	4.7	71.5	9.0	792.1
Employer Perceived Projections									
1975: Method A	770.7	75.8	83.2	8.2	53.9	5.3	109.1	10.7	1016.9
Method B	817.0	74.8	90.1	8.2	54.4	5.0	130.8	12.0	1092.3
Method C	827.9	74.9	92.7	8.4	54.4	4.9	130.8	11.8	1105.8
1980: Method A	846.7	70.7	86.4	7.2	68.9	5.7	196.2	16.4	1198.2
Method B	937.5	70.8	93.4	7.1	70.4	5.3	222.7	16.8	1324.0
Method C	958.7	68.6	96.0	6.9	70.4	5.0	272.7	19.5	1397.8

Social Worker:

Information was requested for both social workers with an MSW and social workers with a baccalaureate degree only. However, as with dental hygienists, not all employers could provide information in these categories and thus a third category, degree unspecified, was used. Tables 94, 95 and 96 present the data for the individual categories.

Six hundred sixty-five social workers were reported employed in the surveyed facilities. General and VA hospitals were the largest employers. Psychiatric hospitals and nursing homes also employed significant numbers. However, the majority of those employed in nursing homes worked part-time. This could represent a similar situation to that noted with dietitians, physical therapists, etc., where many facilities employ a person for a few hours a week on a contractual basis. The figures for the nursing home column could therefore be inflated.

Employment opportunities for social workers were also found in psychiatric and chronic disease hospitals, rest homes, VNA's, state agencies, NHC's and HMO's, voluntary health organizations, local health departments, and drug clinics. Approximately 23% of all social workers employed worked in state agencies or state facilities.

Of the 665 employed, 217 worked part-time. As mentioned above, this number might be inflated due to the staffing patterns peculiar to nursing homes. Approximately 70% of both the part-time and full-time workers were females.

The vacancy rate was high at 9.4%. However, it may be noted that 37.2 of the 58.1 vacancies that were reported were found in psychiatric hospitals, giving them a vacancy rate of 21.4%. As only 2.0 vacancies were found in state agencies excluding hospitals but 39.0 were found in state agencies including hospitals, it is apparent that the majority of these vacancies, at least half of those reported, are probably in the state psychiatric institutions. These vacancies, and the resulting high vacancy rate, are therefore probably due more to the recent expansion in the Mental Health Department, or other causes specific to state psychiatric institutions, than to a current shortage of this profession.

The annual turnover rates for both MSW and MS social workers were about 11.4, roughly half the average rate.

The projections as perceived by the employer showed an unusually high rate of increase: between 25.4% and 34.7% for 1975, and between 37.8% and 56.0% over current employment opportunities by 1980. However, in comparison to the projected number of graduates entering the labor force, it appears that there will probably not be a shortage.

Table 93 illustrates the proportions of social workers reported holding either an MSW or a BS. Slightly over half of the current employment opportunities are for the MSW degree, while only 28.5% are for the baccalaureate degree social worker. A higher proportion of vacancies, 63.8% are for MSW's in comparison to 26.9% for BS. The projections indicate that the proportion of MSW's may increase slightly by 1980 with a comparable decrease in baccalaureate degree social workers.

EMPLOYMENT PATTERNS OF SELECTED HEALTH OCCUPATIONS IN CONNECTICUT - SEPTEMBER 1973

Table 92

SOCIAL WORKER

	All Facilities Surveyed	All Hospitals			Extended Care Facilities		VNAs	Clinical Labs.	Industrial Infirmaries	State (excl. Hosp.)	Other Employers (Total)
		General and VA Hospitals	Psych. Hosp.	Chronic Disease Hosp.	Nursing Homes	Rest Homes					
Full-time Employees	448	158	130	18	11	0	0	-	-	25	106
% female full-time											
Part-time employees	217	30	13	0	89	8	11			4	62
% female part-time											
Total number employed	665	188	143	18	100	8	11			29	168
Number employed-FTE	556.5	173.0	136.4	18.0	55.6	3.6	5.5			27.0	137.4
Vacancies-FTE	58.1	5.0	37.2	1.1	1.8	0	0			2.0	11.0
Total Employment opportunities-FTE	614.6	178.0	173.6	19.1	57.4	3.6	5.5			29.0	148.4
Annual Turnover rate											
Employer Perceived Projections											
1975: Method A	770.7	202.2	216.9	24.4	72.2	3.6	7.1			33.5	210.8
Method B	817.0	213.1	224.8	24.4	79.3	3.6	7.1			36.0	228.7
Method C	827.9	215.1	224.8	24.4	83.3	3.6	7.1			36.0	233.6
1980: Method A	846.7	210.7	225.9	28.6	85.2	3.6	11.1			35.5	246.1
Method B	937.5	225.9	235.9	31.8	107.0	3.6	11.1			46.8	275.4
Method C	958.7	228.2	238.0	31.8	116.2	3.6	11.1			46.8	283.0

Table 92 (Cont'd.)

SOCIAL WORKER

	Other Employers										
	Dental Labs.	NHC & HMO	School Infirmaries	Group Practices	Phys. Therapy Groups	Vol. Health Orgs.	Local Health Depts.	Drug Clinics	All Hosp.	ECFs (Nursing & rest homes)	State (including State Hosp.)
Full-time Employees	-	31	-	-	-	27	16	32	306	11	144
% female full-time											
Part-time employees		20				5	0	37	43	97	11
% female part-time											
Total number employed		51				32	16	69	349	108	155
Number employed-FTE		40.7				29.4	16.0	51.3	327.4	59.2	149.5
Vacancies-FTE		11.0				0	0	0	43.3	1.8	39.0
Total Employment opportunities-FTE		51.7				29.4	16.0	51.3	370.7	61.0	188.5
Annual Turnover rate											
Employer Perceived Projections											
1975: Method A		61.6				41.4	16.0	91.8	443.5	75.8	
Method B		67.5				53.4	16.0	91.8	462.3	82.9	
Method C		67.5				53.4	16.0	96.7	464.3	86.9	
1980: Method A		72.6				44.1	16.0	113.4	465.2	88.8	
Method B		87.3				58.7	16.0	113.4	493.6	110.6	
Method C		87.3				58.7	16.0	121.0	498.0	119.8	

EMPLOYMENT PATTERNS OF SELECTED HEALTH OCCUPATIONS IN CONNECTICUT - SEPTEMBER 1973

Table 93

Social Worker	M.S.W.	%	B.S.	%	Degree unspecified	%	Total
Full-time Employees	225	50.2	141	31.5	82	18.3	448
Part-time employees	121	55.8	36	16.6	60	27.6	217
Total number employed	346	52.0	177	26.6	142	21.4	665
Number employed-FTE	285.4	51.3	159.6	28.7	111.5	20.0	556.5
Vacancies-FTE	37.1	63.8	15.6	26.9	5.4	9.3	58.1
Total Employment opportunities-FTE	322.5	52.5	175.2	28.5	116.9	19.0	614.6
Employer Perceived Projections							
1975: Method A	407.6	52.9	209.5	27.2	153.6	19.9	770.7
Method B	444.6	54.4	218.8	26.8	153.6	18.8	817.0
Method C	448.9	54.2	220.5	26.6	158.5	19.2	827.9
1980: Method A	439.7	51.9	231.2	27.3	175.8	20.8	846.7
Method B	504.9	53.8	255.5	27.3	177.1	18.9	937.5
Method C	515.1	53.7	258.9	27.0	184.7	19.3	958.7

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EMPLOYMENT PATTERNS OF SELECTED HEALTH OCCUPATIONS IN CONNECTICUT - SEPTEMBER 1973

Table 94

SOCIAL WORKER
M. S. W.

	All Facilities Surveyed	All Hospitals			Extended Care Facilities		VNAs	Clinical Labs.	Industrial Infirmaries	State (excl. Hosp.)	Other Employers (Total)
		General and VA Hospitals	Psych. Hosp.	Chronic Disease Hosp.	Nursing Homes	Rest Homes					
Full-time Employees	225	109	85	5	0	0	0	-	-	6	20
% female full-time	70.6	78	67.5	60	-	-	-			33.3	
Part-time employees	121	25	10	0	63	4	9			0	10
% female part-time	75.8	84	55.5	-	73.3	100	83.3			-	
Total number employed	346	134	95	5	63	4				6	30
Number employed-FTE	285.4	121.5	89.7	5.3	31.5	1.8	4.7			6.0	24.9
Vacancies-FTE	37.1	4.5	23.2	0	1.8	0	0			1.0	6.6
Total Employment opportunities-FTE	322.5	126.0	112.9	5.3	33.3	1.8	4.7			7.0	31.5
Annual Turnover rate	11.3	9.5	15.0	0	0	0	0			0	
Employer Perceived Projections											
1975: Method A	407.6	142.7	152.5	8.5	40.7	1.8	5.5			8	47.9
Method B	444.6	151.2	160.3	8.5	43.7	1.8	5.5			10.5	63.1
Method C	448.9	152.6	160.3	8.5	46.6	1.8	5.5			10.5	63.1
1980: Method A	439.7	148.2	160.5	9.5	46.3	1.8	7.9			11	54.5
Method B	504.9	159.9	170.4	9.5	55.9	1.8	7.9			21	78.5
Method C	515.1	161.6	172.3	9.5	62.5	1.8	7.9			21	78.5

Table 94 (Cont'd.)

SOCIAL WORKER
M.S.W.

	Other Employers								All Hosp.	ECFs (Nursing & rest homes)	State (including State Hosp.)
	Dental Labs.	NHC & HMO	School Infirmaries	Group Practices	Phys. Therapy Groups	Vol. Health Orgs.	Local Health Depts.	Drug Clinics			
Full-time Employees	-	9	-	-	-	11	-	0	199	0	70
% female full-time		50				25.0		-			
Part-time employees		0				5		5	35	67	4
% female part-time		-				100		0			
Total number employed		9				16		5	234	67	74
Number employed-FTE		8.8				13.4		2.7	216.5	33.3	72.0
Vacancies-FTE		6.6				0		0	27.7	1.8	23.0
Total Employment opportunities-FTE		15.4				13.4		2.7	244.2	35.1	95.0
Annual Turnover rate		50.0				40.0		0			
Employer Perceived Projections											
1975: Method A		19.8				22.7		5.4	303.7	42.5	
Method B		25.7				32.0		5.4	320.0	45.5	
Method C		25.7				32.0		5.4	321.4	48.4	
1980: Method A		26.4				22.7		5.4	318.2	48.1	
Method B		41.1				32.0		5.4	339.8	57.7	
Method C		41.1				32.0		5.4	343.4	64.3	

EMPLOYMENT PATTERNS OF SELECTED HEALTH OCCUPATIONS IN CONNECTICUT - SEPTEMBER 1973

Table 95
SOCIAL WORKER, B. S. DEGREE

	All Facilities Surveyed	All Hospitals			Extended Care Facilities		VNAs	Clinical Labs.	Industrial Infirmaries	State (excl. Hosp.)	Other Employers (Total)
		General and VA Hospitals	Psych. Hosp.	Chronic Disease Hosp.	Nursing Homes	Rest Homes					
Full-time Employees	141	49	45	13	11	0	-	-	-	-	23
% female full-time	74.3	93.9	53.3	66.7	66.6	-					
Part-time employees	36	5	3	0	22	4					2
% female part-time	71.4	100	66.6	-	60.0	100					
Total number employed	177	54	48	13	33	4					25
Number employed-FTE	159.6	51.5	46.7	12.7	22.2	1.8					24.7
Vacancies-FTE	15.6	.5	14.0	1.1	0	0					0
Total Employment opportunities-FTE	175.2	52.0	60.7	13.8	22.2	1.8					24.7
Annual Turnover rate	11.5	5.6	24.6	0	0	0					
Employer Perceived Projections											
1975: Method A	209.5	59.5	64.4	15.9	29.6	1.8					38.3
Method B	218.8	61.9	64.5	15.9	33.7	1.8					41.0
Method C	220.5	62.5	64.5	15.9	34.8	1.8					41.0
1980: Method A	231.2	62.5	65.4	19.1	37.0	1.8					45.4
Method B	255.5	66.0	65.5	22.3	49.2	1.8					50.7
Method C	258.9	66.6	65.7	22.3	51.8	1.8					50.7

Table 95 (Cont'd.)

SOCIAL WORKER, B.S. DEGREE

	Other Employers								All Hosp.	ECFs (Nursing & rest homes)	State (including State Hosp.)
	Dental Labs.	NHC & HMO	School Infirmaries	Group Practices	Phys. Therapy Groups	Vol. Health Orgs.	Local Health Depts.	Drug Clinics			
Full-time Employees	-	2	-	-	-	16	-	5	107	11	55
% female full-time		100				100		0			
Part-time employees		2				0		0	8	26	3
% female part-time		0				-		-			
Total number employed		4				16		5	115	37	58
Number employed-FTE		3.3				16.0		5.4	110.9	24.0	56.5
Vacancies-FTE		0				0		0	15.6	0	15.0
Total Employment opportunities-FTE		3.3				16.0		5.4	126.5	24.0	71.5
Annual Turnover rate		0				20.0					
Employer Perceived Projections											
1975: Method A		8.8				18.7		10.8	139.8	31.4	
Method B		8.8				21.4		10.8	142.3	35.5	
Method C		8.8				21.4		10.8	142.9	36.6	
1980: Method A		13.2				21.4		10.8	147.0	38.8	
Method B		13.2				26.7		10.8	153.8	51.0	
Method C		13.2				26.7		10.8	154.6	53.6	

EMPLOYMENT PATTERNS OF SELECTED HEALTH OCCUPATIONS IN CONNECTICUT - SEPTEMBER 1973

Table 96

SOCIAL WORKER
DEGREE UNSPECIFIED

	All Facilities Surveyed	All Hospitals: General and VA Hospitals	All Hospitals: Psych. Hosp.	All Hospitals: Chronic Disease Hosp.	Extended Care Facilities: Nursing Homes	Extended Care Facilities: Rest Homes	VNAs	Clinical Labs.	Industrial Infirmaries	State (excl. Hosp.)	Other Employers (Total)
Full-time Employees	82	-	-	-	0	-	0	-	-	19	63
% female full-time	56.7				-		-			68.4	
Part-time employees	60				4		2			4	50
% female part-time	45				100		100			75	
Total number employed	142				4		2			23	113
Number employed-FTE	111.5				1.9		.8			21.0	87.8
Vacancies-FTE	5.4				0		0			1.0	4.4
Total Employment opportunities-FTE	116.9				1.9		.8			22.0	92.2
Annual Turnover rate	19.0				0		0			19.0	
Employer Perceived Projections											
1975: Method A	153.6				1.9		1.6			25.5	124.6
Method B	153.6				1.9		1.6			25.5	124.6
Method C	158.5				1.9		1.6			25.5	129.5
1980: Method A	175.8				1.9		3.2			24.5	146.2
Method B	177.1				1.9		3.2			25.8	146.2
Method C	184.7				1.9		3.2			25.8	153.8

Table 96 (Cont'd.) SOCIAL WORKER DEGREE UNSPECIFIED	Other Employers								All Hosp.	ECFs (Nursing & rest homes)	State (including State Hosp.)
	Dental Labs.	NHC & HMO	School Infirmaries	Group Practices	Phys. Therapy Groups	Vol. Health Orgs.	Local Health Depts.	Drug Clinics			
Full-time Employees	-	20	-	-	-	-	16	27	-	0	19
% female full-time		55.5					75	0			
Part-time employees		18					0	32		4	4
% female part-time		0					-	66.6			
Total number employed		38					16	59		4	23
Number employed-FTE		28.6					16.0	43.2		1.9	21.0
Vacancies-FTE		4.4					0	0		0	1.0
Total Employment opportunities-FTE		33.0					16.0	43.2		1.9	22.0
Annual Turnover rate		0					0	57.1			
Employer Perceived Projections											
1975: Method A		33.0					16.0	75.6		1.9	
Method B		33.0					16.0	75.6		1.9	
Method C		33.0					16.0	80.5		1.9	
1980: Method A		33.0					16.0	97.2		1.9	
Method B		33.0					16.0	97.2		1.9	
Method C		33.0					16.0	104.8		1.9	

Social Service Aide:

At the time of the survey, 84 social service aides were reported employed in the surveyed facilities. Approximately half of these were employed in nursing homes with other employment opportunities reported in general and VA hospitals, NHC's and HMO's, voluntary health organizations, local health departments, and drug clinics. Although no current employment opportunities for this occupation were reported in psychiatric or chronic disease hospitals, it was indicated that some might become available in these facilities in the future.

Over half of the social service aides worked part-time. The majority of the part-time workers were found in nursing homes. All of the part-time workers were female; 87.5% of the full-time workers were female.

The vacancy rate, 11.4%, was higher than average. However, most of these vacancies were found in NHC's and HMO's and, as these facilities also had a high proportion of vacancies for mental health workers, this could possibly be due to recent expansion rather than difficulty in hiring this profession.

The annual turnover rate was higher than average, 25.8.

Projections as perceived by the employer showed a higher than average increase: 20.4% to 34.2% for 1975, and 25.0% to 38.9% over current employment opportunities by 1980.

Community Health Aide:

Only 39 community health aides were reported employed at the time of the survey. Over half of these were reported in general and VA hospitals; the remainder was found in psychiatric hospitals, VNA's, NHC's and HMO's. Eleven were reported employed in state agencies and state facilities.

Four of the 39 worked part-time. Approximately 88% of all those employed were female. No vacancies were reported. The turnover rate was reported as zero.

Large increases in utilization of this occupation were projected by the employer: between 46.1% and 47.4% by 1975, and between 86.7% and 90.8% by 1980.

Mental Health Worker:

Mental health workers were employed in general and VA hospitals, psychiatric hospitals, and NHC's and HMO's. Although currently none were reported employed in nursing homes, it was projected that some employment opportunities for this profession would exist in these facilities by 1980.

Fourteen of the 71 reported employed worked part-time. Approximately 63% of the full-time workers were female; 88% of the part-time workers were female.

The vacancy rate was higher than average at 9.2%. All of the vacancies were reported in NHC's and HMO's. The annual turnover rate was lower than average at 12.1.

The projections as perceived by the employers showed exceptionally large increases in the utilization of this occupation: between 52.6% and 82.9% by 1975, and between 174.4% and 281.4% over current employment opportunities by 1980.

EMPLOYMENT PATTERNS OF SELECTED HEALTH OCCUPATIONS IN CONNECTICUT - SEPTEMBER 1973

Table 97

SOCIAL SERVICE AIDE

	All Facilities Surveyed	All Hospitals			Extended Care Facilities		VNAs	Clinical Labs.	Industrial Infirmaries	State (excl. Hosp.)	Other Employers (Total)
		General and VA Hospitals	Psych. Hosp.	Chronic Disease Hosp.	Nursing Homes	Rest Homes					
Full-time Employees	36	8	0	0	7	-	-	-	-	0	21
% female full-time	87.5	100			100						
Part-time employees	48	3	0	0	37					0	8
% female part-time	100	100			100						
Total number employed	84	11	0	0	44					0	29
Number employed-FTE	61.2	9.5	0	0	25.9					0	25.8
Vacancies-FTE	7.9	0	0	0	0					0	7.9
Total Employment opportunities-FTE	69.1	9.5	0	0	25.9					0	33.7
Annual Turnover rate	25.8	35.3	0	0	0					0	
Employer Perceived Projections											
1975: Method A	83.2	9.0	2.4	1.1	33.3					1.0	36.4
Method B	90.1	8.9	2.4	1.1	40.3					1.0	36.4
Method C	92.7	8.9	2.4	1.1	42.9					1.0	36.4
1980: Method A	86.4	10.0	3.6	2.1	33.3					1.0	36.4
Method B	93.4	10.0	3.6	2.1	40.3					1.0	36.4
Method C	96.0	10.0	3.6	2.1	42.9					1.0	36.4

Table 97 (Cont'd.)

SOCIAL SERVICE AIDE

	Other Employers								All Hosp.	ECFs (Nursing & rest homes)	State (including State Hosp.)
	Dental Labs.	NHC & HMO	School Infirmaries	Group Practices	Phys. Therapy Groups	Vol. Health Orgs.	Local Health Depts.	Drug Clinics			
Full-time Employees	-	4	-	-	-	0	12	5	8	7	0
% female full-time		50				-	100	0			
Part-time employees		0				8	0	0	3	37	0
% female part-time		-				100	-	-			
Total number employed		4				8	12	5	11	44	0
Number employed-FTE		4.4				4.0	12.0	5.4	9.5	25.9	0
Vacancies-FTE		6.6				1.3	0	0	0	0	0
Total Employment opportunities-FTE		11.0				5.3	12.0	5.4	9.5	25.9	0
Annual Turnover rate		0				0	0	100			
Employer Perceived Projections											
1975: Method A		11.0				8.0	12.0	5.4	12.5	33.3	
Method B		11.0				8.0	12.0	5.4	12.4	40.3	
Method C		11.0				8.0	12.0	5.4	12.4	42.9	
1980: Method A		11.0				8.0	12.0	5.4	15.7	33.3	
Method B		11.0				8.0	12.0	5.4	15.7	40.3	
Method C		11.0				8.0	12.0	5.4	15.7	42.9	

EMPLOYMENT PATTERNS OF SELECTED HEALTH OCCUPATIONS IN CONNECTICUT - SEPTEMBER 1973

Table 98

COMMUNITY HEALTH AIDE

	All Facilities Surveyed	All Hospitals: General and VA Hospitals	All Hospitals: Psych. Hosp.	All Hospitals: Chronic Disease Hosp.	Extended Care Facilities: Nursing Homes	Extended Care Facilities: Rest Homes	VNAs	Clinical Labs.	Industrial Infirmaries	State (excl. Hosp.)	Other Employers (Total)
Full-time Employees	35	22	8	-	-	-	5	-	-	-	0
% female full-time	87.8	86.3	87.5				100				-
Part-time employees	4	0	0				0				4
% female part-time	dk	-	-				-				-
Total number employed	39	22	8				5				4
Number employed-FTE	36.9	22.0	8.0				4.7				2.2
Vacancies-FTE	0	0	0				0				0
Total Employment opportunities-FTE	36.9	22.0	8.0				4.7				2.2
Annual Turnover rate	0	0	0				0				
Employer Perceived Projections											
1975: Method A	53.9	27.0	20.0				4.7				2.2
Method B	54.4	27.5	20.0				4.7				2.2
Method C	54.4	27.5	20.0				4.7				2.2
1980: Method A	68.9	37.0	25.0				4.7				2.2
Method B	70.4	38.5	25.0				4.7				2.2
Method C	70.4	38.5	25.0				4.7				2.2

Table 98 (Cont'd.)

COMMUNITY HEALTH AIDE

	Other Employers										
	Dental Labs.	NHC & HMO	School Infirmaries	Group Practices	Phys. Therapy Groups	Vol. Health Orgs.	Local Health Depts.	Drug Clinics	All Hosp.	ECFs (Nursing & rest homes)	State (including State Hosp.)
Full-time Employees	-	0	-	-	-	-	-	-	30	-	11
% female full-time		-									
Part-time employees		4							0		0
% female part-time											
Total number employed		4							30		11
Number employed-FTE		2.2							30.0		11.0
Vacancies-FTE		0							0		0
Total Employment opportunities-FTE		2.2							30.0		11.0
Annual Turnover rate		0									
Employer Perceived Projections											
1975: Method A		2.2							47.0		
Method B		2.2							47.5		
Method C		2.2							47.5		
1980: Method A		2.2							62.0		
Method B		2.2							63.5		
Method C		2.2							63.5		

EMPLOYMENT PATTERNS OF SELECTED HEALTH OCCUPATIONS IN CONNECTICUT - SEPTEMBER 1973

Table 99

MENTAL HEALTH WORKER

	All Facilities Surveyed	All Hospitals			Extended Care Facilities		VNAs	Clinical Labs.	Industrial Infirmaries	State (excl. Hosp.)	Other Employers (Total)
		General and VA Hospitals	Psych. Hosp.	Chronic Disease Hosp.	Nursing Homes	Rest Homes					
Full-time Employees	57	17	36		0	-	-	-	-	-	4
% female full-time	62.9	70.5	62.5								0
Part-time employees	14	4	6		0						4
% female part-time	87.5	100	50								100
Total number employed	71	21	42		0						8
Number employed-FTE	64.9	19.0	39.3		0						6.6
Vacancies-FTE	6.6	0	0		0						6.6
Total Employment opportunities-FTE	71.5	19.0	39.3		0						13.2
Annual Turnover rate	12.1	0	50.0								
Employer Perceived Projections											
1975: Method A	109.1	26.0	67.7		0						15.4
Method B	130.8	33.7	77.3		0						19.8
Method C	130.8	33.7	77.3		0						19.8
1980: Method A	196.2	31.0	141.7		3.7						19.8
Method B	222.7	44.3	141.7		3.7						33.0
Method C	272.7	44.3	191.7		3.7						33.0

Table 99 (Cont'd.)

MENTAL HEALTH WORKER

	Other Employers								All Hosp.	ECFs (Nursing & rest homes)	State (including State Hosp.)
	Dental Labs.	NHC & HMO	School Infirmaries	Group Practices	Phys. Therapy Groups	Vol. Health Orgs.	Local Health Depts.	Drug Clinics			
Full-time Employees	-	4	-	-	-	-	-	-	53	0	3
% female full-time		0									
Part-time employees		4							10	0	0
% female part-time		100									
Total number employed		8							63	0	3
Number employed-FTE		6.6							58.3	0	3.0
Vacancies-FTE		6.6							0	0	0
Total Employment opportunities-FTE		13.2							58.3	0	3.0
Annual Turnover rate		33.3									
Employer Perceived Projections											
1975: Method A		15.4							93.7	0	
Method B		19.8							111.0	0	
Method C		19.8							111.0	0	
1980: Method A		19.8							172.7	3.7	
Method B		33.0							186.0	3.7	
Method C		33.0							236.0	3.7	

15. Technician: (tables 100-101)

Data for two of the occupations in the technician grouping, biomedical equipment technician and surgical technician, are presented here.

Biomedical equipment technician:

These technicians were reported employed exclusively in general and VA hospitals. Only 11 were employed at the time of the survey, one of whom worked part-time. All of those employed were male.

There was one vacancy. The annual turnover rate was zero.

Although current employment is very low, the hospitals projected a relatively large increase in the employment opportunities for this occupation, up to 16.4 FTEs by 1975, and between 28 and 29.7 FTEs by 1980.

Surgical Technician:

Surgical technicians are also employed exclusively in general and VA hospitals. However, NHC's and HMO's projected some employment opportunities for them by 1980.

At the time of the survey, 344 were employed, 38 part-time and 306 full-time. Approximately 84% of all those employed were female.

Nine vacancies were reported, producing a low vacancy rate of 2.7%. The annual turnover rate was 16.8.

Only modest increases were projected: between 4.9% and 6.3% by 1975, and between 10.3% and 14.3% over current employment opportunities by 1980.

EMPLOYMENT PATTERNS OF SELECTED HEALTH OCCUPATIONS IN CONNECTICUT - SEPTEMBER 1973

Table 100

BIOMEDICAL EQUIPMENT TECHNICIAN

	All Facilities Surveyed	All Hospitals			Extended Care Facilities		VNAs	Clinical Labs.	Industrial Infirmaries	State (excl. Hosp.)	Other Employers (Total)
		General and VA Hospitals	Psych. Hosp.	Chronic Disease Hosp.	Nursing Homes	Rest Homes					
Full-time Employees	10	10	–	–	–	–	–	–	–	–	–
% female full-time	0	0									
Part-time employees	1	1									
% female part-time	0	0									
Total number employed	11	11									
Number employed-FTE	10.5	10.5									
Vacancies-FTE	1.0	1.0									
Total Employment opportunities-FTE	11.5	11.5									
Annual Turnover rate	0	0									
Employer Perceived Projections											
1975: Method A	16.0	16.0									
Method B	16.4	16.4									
Method C	16.4	16.4									
1980: Method A	28.0	28.0									
Method B	29.7	29.7									
Method C	29.7	29.7									

Table 100 (Cont'd.)

BIOMEDICAL EQUIPMENT TECHNICIAN	Other Employers								All Hosp.	ECFs (Nursing & rest homes)	State (including State Hosp.)
	Dental Labs.	NHC & HMO	School Infirmaries	Group Practices	Phys. Therapy Groups	Vol. Health Orgs.	Local Health Depts.	Drug Clinics			
Full-time Employees	-	-	-	-	-	-	-	-	10	-	-
% female full-time											
Part-time employees									1		
% female part-time											
Total number employed									11		
Number employed-FTE									10.5		
Vacancies-FTE									1.0		
Total Employment opportunities-FTE									11.5		
Annual Turnover rate											
Employer Perceived Projections											
1975: Method A									16.0		
Method B									16.4		
Method C									16.4		
1980: Method A									28.0		
Method B									29.7		
Method C									29.7		

EMPLOYMENT PATTERNS OF SELECTED HEALTH OCCUPATIONS IN CONNECTICUT - SEPTEMBER 1973

Table 101

SURGICAL TECHNICIAN

	All Facilities Surveyed	All Hospitals			Extended Care Facilities		VNAs	Clinical Labs.	Industrial Infirmaries	State (excl. Hosp.)	Other Employers (Total)
		General and VA Hospitals	Psych. Hosp.	Chronic Disease Hosp.	Nursing Homes	Rest Homes					
Full-time Employees	306	306	-	-	-	-	-	-	-	-	0
% female full-time	84.4	84.4									-
Part-time employees	38	38									0
% female part-time	84.2	84.2									-
Total number employed	344	344									0
Number employed-FTE	325.0	325.0									0
Vacancies-FTE	9.0	9.0									-
Total Employment opportunities-FTE	334.0	334.0									0
Annual Turnover rate	16.8	16.8									-
Employer Perceived Projections											
1975: Method A	350.4	346.0									4.4
Method B	355.0	350.6									4.4
Method C	355.0	350.6									4.4
1980: Method A	368.4	364.0									4.4
Method B	380.3	375.9									4.4
Method C	381.7	377.3									4.4

Table 101 (Cont'd.)

SURGICAL TECHNICIAN

	Other Employers										
	Dental Labs.	NHC & HMO	School Infirmaries	Group Practices	Phys. Therapy Groups	Vol. Health Orgs.	Local Health Depts.	Drug Clinics	All Hosp.	ECFs (Nursing & rest homes)	State (including State Hosp.)
Full-time Employees	-	0	-	-	-	-	-	-	305	-	4
% female full-time		-									
Part-time employees		0							38		0
% female part-time		-									
Total number employed		0							341		4
Number employed-FTE		0							325.0		4.0
Vacancies-FTE		0							9.0		0
Total Employment opportunities-FTE		0							334.0		4.0
Annual Turnover rate											
Employer Perceived Projections											
1975: Method A		4.4							346.0		
Method B		4.4							350.6		
Method C		4.4							350.6		
1980: Method A		4.4							364.0		
Method B		4.4							375.9		
Method C		4.4							377.3		

16. Additional Occupations: (tables 102-106)

Five additional occupations were studied in this survey: clinical psychologist, pharmacist, medical librarian, biological photographer, and medical illustrator.

Clinical psychologist:

Table 102 presents the data for clinical psychologist. At the time of the survey 165 clinical psychologists were employed in the surveyed facilities. General and psychiatric hospitals were the largest employers. Employment opportunities were also reported in chronic disease hospitals, nursing homes, state agencies, NHC's and HMO's, school infirmaries, voluntary health organizations, local health departments and drug clinics. Almost one-third of those employed worked in state agencies and facilities.

Forty-one of the 165 worked part-time. Only 16% of the full-time workers were female; 32%, of the part-time workers.

The vacancy rate was high at 12.0%. Thirteen of the 19.8 vacancies were reported in state agencies and state hospitals, 5.0 in the former, 8.0 in the latter. Some of this high rate, therefore, could be caused by the recent expansion in the Connecticut State Department of Mental Health.

The turnover rate was below average at 11.8.

Higher-than-average increases were reported in the projections as perceived by the employers: between 19.4% and 29.1% by 1975, and between 24.8% and 43.8% over current employment opportunities by 1980.

In 1973, 230 clinical psychologists were licensed in the State of Connecticut. Approximately 18% of all licensed psychologists, both clinical and consulting, reside out of state. Applying this proportion to clinical psychologists only, results in 188 clinical psychologists licensed and residing in Connecticut. From our survey results it appears that the large majority of these work in some type of facility, at least on a part-time basis.

EMPLOYMENT PATTERNS OF SELECTED HEALTH OCCUPATIONS IN CONNECTICUT - SEPTEMBER 1973

Table 102

CLINICAL PSYCHOLOGIST	All Facilities Surveyed	All Hospitals			Extended Care Facilities		VNAs	Clinical Labs.	Industrial Infirmaries	State (excl. Hosp.)	Other Employers (Total)
		General and VA Hospitals	Psych. Hosp.	Chronic Disease Hosp.	Nursing Homes	Rest Homes					
Full-time Employees	124	38	51	1	0	-	-	-	-	9	25
% female full-time	15.8	13.2	12.2	0	-					33.3	
Part-time employees	41	9	1	4	4					2	21
% female part-time	32.0	44.4	100	25	0					0	
Total number employed	165	47	52	5	4					11	46
Number employed-FTE	145.0	42.5	51.4	3.2	1.9					10.0	36.0
Vacancies-FTE	19.8	1.0	8.0	0	0					5.0	5.8
Total Employment opportunities-FTE	164.8	43.5	59.4	3.2	1.9					15.0	41.8
Annual Turnover rate	11.8	12.8	2.7	0	0					50.0	
Employer Perceived Projections											
1975: Method A	196.8	49.0	78.0	4.8	3.7					13.0	48.0
Method B	212.4	51.6	80.0	4.8	3.7					12.9	59.4
Method C	212.7	51.9	80.0	4.8	3.7					12.9	59.4
1980: Method A	205.7	52.5	82.7	4.8	3.7					14.0	48.0
Method B	234.9	56.9	91.6	4.8	3.7					13.9	64.0
Method C	237.0	57.6	93.0	4.8	3.7					13.9	64.0

Table 102 (Cont'd.)

CLINICAL PSYCHOLOGIST

	Other Employers										
	Dental Labs.	NHC & HMO	School Infirmaries	Group Practices	Phys. Therapy Groups	Vol. Health Orgs.	Local Health Depts.	Drug Clinics	All Hosp.	ECFs (Nursing & rest homes)	State (including State Hosp.)
Full-time Employees	-	15	3	-	-	3	4	0	90	0	50
% female full-time		0	0			0	0	-			
Part-time employees		11	0			5	0	5	14	4	6
% female part-time		20	-			50.0	-	0			
Total number employed		26	3			8	4	5.0	104	4	56
Number employed-FTE		20.9	3.1			5.3	4.0	2.7	97.1	1.9	53.0
Vacancies-FTE		4.4	0			1.4	0	0	9.0	0	13.0
Total Employment opportunities-FTE		25.3	3.1			6.7	4.0	2.7	106.1	1.9	66.0
Annual Turnover rate		0	0			0	0	0			
Employer Perceived Projections											
1975: Method A		27.5	3.1			8.0	4.0	5.4	132.1	3.7	
Method B		38.1	3.1			8.8	4.0	5.4	136.4	3.7	
Method C		38.1	3.1			8.8	4.0	5.4	136.7	3.7	
1980: Method A		27.5	3.1			8.0	4.0	5.4	140.0	3.7	
Method B		38.1	3.1			13.4	4.0	5.4	153.3	3.7	
Method C		38.1	3.1			13.4	4.0	5.4	155.4	3.7	

Pharmacist:

The facilities surveyed reported 283 pharmacists employed. Over half of these were employed in general and VA hospitals; the rest were employed in psychiatric and chronic disease hospitals, nursing homes, state agencies, NHC's and HMO's, and drug clinics.

Eighty-six of the 283 worked part-time. All of the 63 pharmacists employed in nursing homes were reported as part-time workers. This could reflect a situation similar to that discussed in relation to dietitians, physical therapists, etc.: a facility employing an individual only a few hours a week on a contractual basis.

Of the full-time workers, 22% were female; 41% of the part-time workers were female.

The vacancy rate was average at 4.6%. The annual turnover rate was low at 9.9.

The projections as perceived by the employer showed increases slightly above average: between 16.9% and 20.1% by 1975, and between 25.7% and 33.3% over current employment opportunities by 1980.

In 1973, 2617 pharmacists held Connecticut licenses. It was estimated* that approximately 80%, or 2090 of these pharmacists were in active practice within the environs of Connecticut. If 283 were practicing in the surveyed facilities, then approximately 1810 were practicing in settings other than the surveyed facilities.

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*Note: This estimation is based on personal communication with Mr. Goodmaster, Director, Commission of Pharmacy.

Medical Librarian:

Sixty medical librarians were reported employed in the surveyed facilities. Over half of these were reported in general and VA hospitals; the remainder were found in psychiatric and chronic disease hospitals, nursing homes, and NHC's and HMO's.

Thirty-one worked part-time, 29 full-time. All of the eleven reported in nursing homes worked part-time. All of the part-time workers were female; 81% of the full-time workers were female.

The vacancy rate was 3.3%. The annual turnover rate was 15.5.

The projections revealed higher-than-average increases: between 17.2% and 18.8% by 1975, and between 21.7% and 34.6% over current employment opportunities by 1980.

Biological Photographer:

Eleven biological photographers were employed at the time of the survey, all in general and VA hospitals. Three worked part-time, eight full-time. None of the part-time workers were female; 25% of the full-time workers were female.

No vacancies were reported. The annual turnover rate was 11.7.

Small increases were projected: from the current 9.5 FTEs to 10.0 in 1975, and 12.5 FTEs in 1980.

Medical Illustrator:

Three medical illustrators were reported employed, all on a full-time basis, all in general and VA hospitals. One of the three was female.

No vacancies were reported. The annual turnover rate was 33.3.

Relatively large increases were projected: from the current 3.0 FTEs to 6.0 FTEs by 1975 and 8.5 FTEs by 1980.

EMPLOYMENT PATTERNS OF SELECTED HEALTH OCCUPATIONS IN CONNECTICUT - SEPTEMBER 1973

Table 103

PHARMACIST

	All Facilities Surveyed	All Hospitals			Extended Care Facilities		VNAs	Clinical Labs.	Industrial Infirmaries	State (excl. Hosp.)	Other Employers (Total)
		General and VA Hospitals	Psych. Hosp.	Chronic Disease Hosp.	Nursing Homes	Rest Homes					
Full-time Employees	197	146	13	10	0	-	-	-	-	15	13
% female full-time	22.2	22.4	30.8	11.1	-					dk	
Part-time employees	86	12	5	1	63					0	5
% female part-time	40.6	70	50	100	18.7					-	
Total number employed	283	158	18	11	63					15	18
Number employed-FTE	240.1	152.0	15.6	10.1	31.5					15.0	15.9
Vacancies-FTE	11.6	9.6	1.0	1.0	0					0	0
Total Employment opportunities-FTE	251.7	161.6	16.6	11.1	31.5					15.0	15.9
Annual Turnover rate	9.9	12.0	0	13.3	14.2					0	
Employer Perceived Projections											
1975: Method A	294.2	168.0	29.3	14.3	42.9					15.0	24.7
Method B	300.2	170.3	30.4	14.3	45.5					15.0	24.7
Method C	302.4	170.6	30.4	14.3	47.4					15.0	24.7
1980: Method A	316.3	181.6	31.2	14.3	42.9					15.0	31.3
Method B	332.6	189.3	35.3	15.1	46.6					15.0	31.3
Method C	335.6	190.2	36.6	15.1	47.4					15.0	31.3

Table 103 (Cont'd.)

PHARMACIST	Other Employers								All Hosp.	ECFs (Nursing & rest homes)	State (including State Hosp.)
	Dental Labs.	NHC & HMO	School Infirmaries	Group Practices	Phys. Therapy Groups	Vol. Health Orgs.	Local Health Depts.	Drug Clinics			
Full-time Employees	-	13	-	-	-	-	-	0	169	0	32
% female full-time		16.6									
Part-time employees		0						5	18	63	0
% female part-time		-						0			
Total number employed		13						5	187	63	32
Number employed-FTE		13.2						2.7	177.7	31.5	32.0
Vacancies-FTE		0						0	11.6	0	0
Total Employment opportunities-FTE		13.2						2.7	189.3	31.5	32.0
Annual Turnover rate		0									
Employer Perceived Projections											
1975: Method A		22.0						2.7	211.6	42.9	
Method B		22.0						2.7	215.0	45.5	
Method C		22.0						2.7	215.3	47.4	
1980: Method A		28.6						2.7	227.1	42.9	
Method B		28.6						2.7	239.7	46.6	
Method C		28.6						2.7	241.9	47.4	

EMPLOYMENT PATTERNS OF SELECTED HEALTH OCCUPATIONS IN CONNECTICUT - SEPTEMBER 1973

Table 104

MEDICAL LIBRARIAN

	All Facilities Surveyed	All Hospitals			Extended Care Facilities		VNAs	Clinical Labs.	Industrial Infirmaries	State (excl. Hosp.)	Other Employers (Total)
		General and VA Hospitals	Psych. Hosp.	Chronic Disease Hosp.	Nursing Homes	Rest Homes					
Full-time Employees	29	19	8	3	3	-	-	-	-	-	2
% female full-time	81.4	89.5	57.1	-	-						100
Part-time employees	31	15	4	1	11						0
% female part-time	100	100	100	100	100						-
Total number employed	60	34	12	1	11						2
Number employed-FTE	44.2	26.5	9.4	.5	5.6						2.2
Vacancies-FTE	1.5	1.5	0	0	0						0
Total Employment opportunities-FTE	45.7	28.0	9.4	.5	5.6						2.2
Annual Turnover rate	15.5	16.6	16.7	0	0						
Employer Perceived Projections											
1975: Method A	53.6	30.6	10.5	1.0	9.3						2.2
Method B	54.3	31.1	10.7	1.0	9.3						2.2
Method C	54.3	31.1	10.7	1.0	9.3						2.2
1980: Method A	55.6	33.1	10.0	1.0	9.3						2.2
Method B	61.3	34.1	14.7	1.0	9.3						2.2
Method C	61.5	34.3	14.7	1.0	9.3						2.2

Table 104 (Cont'd.) MEDICAL LIBRARIAN	Other Employers								All Hosp.	ECFs (Nursing & rest homes)	State (including State Hosp.)
	Dental Labs.	NHC & HMO	School Infirmaries	Group Practices	Phys. Therapy Groups	Vol. Health Orgs.	Local Health Depts.	Drug Clinics			
Full-time Employees	-	2	-	-	-	-	-	-	27	0	4
% female full-time		100									
Part-time employees		0							20	11	1
% female part-time		-									
Total number employed		2							47	11	5
Number employed-FTE		2.2							36.4	5.6	4.5
Vacancies-FTE		0							1.5	0	0
Total Employment opportunities-FTE		2.2							37.9	5.6	4.5
Annual Turnover rate		0									
Employer Perceived Projections											
1975: Method A		2.2							42.1	9.3	
Method B		2.2							42.8	9.3	
Method C		2.2							42.8	9.3	
1980: Method A		2.2							44.1	9.3	
Method B		2.2							49.8	9.3	
Method C		2.2							50.0	9.3	

EMPLOYMENT PATTERNS OF SELECTED HEALTH OCCUPATIONS IN CONNECTICUT - SEPTEMBER 1973

Table 105

BIOLOGICAL PHOTOGRAPHER	All Facilities Surveyed	All Hospitals			Extended Care Facilities		VNAs	Clinical Labs.	Industrial Infirmaries	State (excl. Hosp.)	Other Employers (Total)
		General and VA Hospitals	Psych. Hosp.	Chronic Disease Hosp.	Nursing Homes	Rest Homes					
Full-time Employees	8	8	-	-	-	-	-	-	-	-	-
% female full-time	25.0	25.0									
Part-time employees	3	3									
% female part-time	0	0									
Total number employed	11	11									
Number employed-FTE	9.5	9.5									
Vacancies-FTE	0	0									
Total Employment opportunities-FTE	9.5	9.5									
Annual Turnover rate	11.7	11.7									
Employer Perceived Projections											
1975: Method A	10.0	10.0									
Method B	10.0	10.0									
Method C	10.0	10.0									
1980: Method A	12.5	12.5									
Method B	12.8	12.8									
Method C	12.8	12.8									

Table 105 (Cont'd.)

BIOLOGICAL PHOTOGRAPHER

	Other Employers								All Hosp.	ECFs (Nursing & rest homes)	State (including State Hosp.)
	Dental Labs.	NHC & HMO	School Infirmaries	Group Practices	Phys. Therapy Groups	Vol. Health Orgs.	Local Health Depts.	Drug Clinics			
Full-time Employees	-	-	-	-	-	-	-	-	8	-	3
% female full-time											
Part-time employees									3		0
% female part-time											
Total number employed									11		3
Number employed-FTE									9.5		3.0
Vacancies-FTE									0		0
Total Employment opportunities-FTE									9.5		3.0
Annual Turnover rate											
Employer Perceived Projections											
1975: Method A									10.0		
Method B									10.0		
Method C									10.0		
1980: Method A									12.5		
Method B									12.8		
Method C									12.8		

EMPLOYMENT PATTERNS OF SELECTED HEALTH OCCUPATIONS IN CONNECTICUT - SEPTEMBER 1973

Table 106

MEDICAL ILLUSTRATOR

	All Facilities Surveyed	All Hospitals			Extended Care Facilities		VNAs	Clinical Labs.	Industrial Infirmaries	State (excl. Hosp.)	Other Employers (Total)
		General and VA Hospitals	Psych. Hosp.	Chronic Disease Hosp.	Nursing Homes	Rest Homes					
Full-time Employees	3	3	-	-	-	-	-	-	-	-	-
% female full-time	33.3	33.3									
Part-time employees	0	0									
% female part-time	-	-									
Total number employed	3	3									
Number employed-FTE	3.0	3.0									
Vacancies-FTE	0	0									
Total Employment opportunities-FTE	3.0	3.0									
Annual Turnover rate	33.3	33.3									
Employer Perceived Projections											
1975: Method A	6.0	6.0									
Method B	6.0	6.0									
Method C	6.0	6.0									
1980: Method A	8.5	8.5									
Method B	8.5	8.5									
Method C	8.5	8.5									

Table 106 (Cont'd.)

MEDICAL ILLUSTRATOR

	Other Employers										
	Dental Labs.	NHC & HMO	School Infirmaries	Group Practices	Phys. Therapy Groups	Vol. Health Orgs.	Local Health Depts.	Drug Clinics	All Hosp.	ECFs (Nursing & rest homes)	State (including State Hosp.)
Full-time Employees	-	-	-	-	-	-	-	-	3	-	2
% female full-time											
Part-time employees									0		0
% female part-time											
Total number employed									3		2
Number employed-FTE									3.0		2.0
Vacancies-FTE									0		0
Total Employment opportunities-FTE									3.0		2.0
Annual Turnover rate											
Employer Perceived Projections											
1975: Method A									6.0		
Method B									6.0		
Method C									6.0		
1980: Method A									8.5		
Method B									8.5		
Method C									8.5		

RESULTS OF

THE SUBJECTIVE SECTION OF THE EMPLOYER QUESTIONNAIRE

Introduction:

Information was needed from employers of health occupations pertinent to projections and recommendations. Questions were developed to elicit this type of information from the employers as it pertained to their own subjective situation. This section displays the results of the subjective section of the employer questionnaire, which aided in forming a frame of reference for recommendations.

The questions fell into two major subject groups: projections, and hiring practices and trends. The following list summarizes the content of each question:

Projections -

- Plans for expansion or change.
- Health occupations programs which should be offered in Connecticut.
- Health occupations programs which should be eliminated in Connecticut.
- Effects of National Health Insurance on employment.
- Effects of the Commission on Hospitals and Health Care on employment.

Hiring Practices and Trends -

- Supply of health personnel.
    - undersupply: causes and solutions.
    - oversupply.
- Hiring practices affected by educational background.
    - baccalaureate vs. associate degree.
    - formal education vs. on-the-job training.
    - certification vs. non-certification.
- Education/training of recent graduates.
- Recruitment techniques.
    - utilization and effectiveness.
    - preference.
    - health job bank.

A sample of five types of employers was selected for inclusion in this section. Hospitals, besides being a major employer of health occupations, were selected because the majority of their responses were obtained in interview, and are therefore more precise. A very good return and explicit responses were the bases for including the visiting nurse associations. Nursing homes and rest homes with nursing supervision were chosen because they are a major employer and a number were interviewed. Industrial infirmaries were selected because of their large numerical return, and because their different service orientation would balance the opinion. It should be noted that 89% of the people employed in the occupations studied in this report work in these institutions.

Coding instructions were developed for the subjective section. A range of answers for each question was originated, based on a review of the questionnaires. Categories were added as necessary during the coding. A list of the coding instructions for the employer subjective may be found in the methodology appendices.

The responses for the five types of employers selected for this section were coded on IBM cards. The cards were sorted by institution and by Commission for Higher Education region number, and printed out. For each question the responses were then hand-tabulated.

The question and answer format is used to report the results of the employer subjective section. A simple narrative is given in cases where the use of tables would be impractical. The question appears in this section exactly as it appeared in the questionnaire.

Response to the Subjective Section of the Employer Questionnaire:

No. A.1.a), b) & c)

QUESTION: Do you have any plans for expansion or other change in facilities or services offered in your institution or office? Yes _____ No_____.

If yes, please describe plans, including date of initiation, length of time involved, extent of change, etc.

How will these plans affect projected employment? Please mention specific numbers and occupations involved.

ANSWER:

TABLE 1 - PLANS FOR EXPANSION OR CHANGE

	Hospitals	Visiting Nurse Associations	Nursing Homes	Rest Homes	Industrial Infirmaries	Totals
Number of respondents.....	58	60	56	15	72	261
No expansion plans.....	16 (27%)	28 (46%)	30 (53%)	8 (53%)	51 (71%)	133
Not applicable.....	2 (3%)	1 (2%)	3 (6%)	0	5 (7%)	12
Yes, will expand or change..	40 (70%)	31 (52%)	23 (41%)	7 (47%)	16 (22%)	117

Of the 261 institutions surveyed 117 (45%) indicated plans for expansion or change of facilities. This figure must be analyzed more closely, however, as to time frame, budget allocation and extent of change. The following tables (nos. 2 - 6) define the expansion plans for each type of institution in terms of the above criteria.

TABLE 2 - EXTENT OF EXPANSION FOR HOSPITALS

(40 out of 58 responded affirmatively)

	Some change, but net effect zero	Will expand to a minor extent*	Will expand to a great extent*	Will reduce to a minor extent*	No answer
Thinking about it, nothing definite.....		1	1		
Definite plans, no budget/time frame.....	4	2	4		4
Definite plans, budgeted, 3-5 yrs.....	2	1	1		
Definite plans, budgeted, 0-2 yrs.....	6	2	8		4

TABLE 3 - EXTENT OF EXPANSION FOR VISITING NURSE ASSOCIATIONS

(31 out of 60 responded affirmatively)

	Some change, but net effect zero	Will expand to a minor extent*	Will expand to a great extent*	Will reduce to a minor extent*	No answer
Thinking about it, nothing definite.....		10			3
Definite plans, no budget/time frame.....	5	3			
Definite plans, budgeted, 3-5 yrs.....	1	1			
Definite plans, budgeted, 0-2 yrs.....		7			1

TABLE 4 - EXTENT OF EXPANSION FOR NURSING HOMES

(23 out of 56 responded affirmatively)

	Some change, but net effect zero	Will expand to a minor extent*	Will expand to a great extent*	Will reduce to a minor extent*	No answer
Thinking about it, nothing definite.....	1	4	2		2
Definite plans, no budget/time frame.....	1	1	1		
Definite plans, budgeted, 3-5 yrs.....					
Definite plans, budgeted, 0-2 yrs.....	2	4	5		

TABLE 5 - EXTENT OF EXPANSION FOR REST HOMES WITH NURSING SUPERVISION

(7 out of 15 responded affirmatively)

	Some change, but net effect zero	Will expand to a minor extent*	Will expand to a great extent*	Will reduce to a minor extent*	No answer
Thinking about it, nothing definite.....					
Definite plans, no budget/time frame.....		1	2		
Definite plans, budgeted, 3-5 yrs.....					
Definite plans, budgeted, 0-2 yrs.....		2	2		

TABLE 6 - EXTENT OF EXPANSION FOR INDUSTRIAL INFIRMARIES

(16 out of 72 responded affirmatively)

	Some change, but net effect zero	Will expand to a minor extent*	Will expand to a great extent*	Will reduce to a minor extent*	No answer
Thinking about it, nothing definite.....		1			
Definite plans, no budget/time frame.....	1				
Definite plans, budgeted, 3-5 yrs.....					
Definite plans, budgeted, 0-2 yrs.....	2	11		1	

Although 117 of the 261 facilities in this section reported plans for expansion or change, only 63 facilities indicated definite, budgeted plans scheduled within the next five years. Of those 63 facilities only 45 indicated that their plans would affect employment to some degree.

For example, of the 58 hospitals responding, 40 (70%) reported plans for expansion or change in facilities. But only 24 of the 40 indicated definite, budgeted plans scheduled within the next five years. Of those 24 hospitals only 12 reported plans which affect employment to some degree.

* Note: If the expansion or change affected less than ten employees it was arbitrarily classified as "minor"; if the expansion or change affected ten or more employees it was arbitrarily classified as "great".

No. A.3.b)

QUESTION: Do you think that there are any programs for health professions in Connecticut that should be eliminated? Please explain.

ANSWER: Concerning an excess of programs in Connecticut, only 10% of the 261 respondents thought some programs should be eliminated. Only 3% of the respondents actually named a specific program. Those programs mentioned were: Registered Nurse (Diploma); Registered Nurse (Associate Degree); Licensed Practical Nurse; Radiologic Technologist; Mental Health Worker; and Food Service Supervisor.

No. A.3.a)

QUESTION: There are several programs in surrounding northeastern states that are not offered in Connecticut, e.g., Music Therapist and Medical Librarian. Do you think any should be offered in this State? Be specific.

While there may have been some bias introduced by including music therapist and medical librarian in the text of the question, those programs and medical record librarian nevertheless received 61 of the 82 responses to the question. The numbers do not necessarily suggest the need for new programs but may possibly be interpreted as indicators of areas in need of attention.

For some programs mentioned in the response to this question a comparison of employment data is suggested. Current demand and current vacancy rates can be compared to projected demand, and, in some cases (where a program has recently been offered in Connecticut) projected supply is available. It is important to remember, however, that analysis of these data is not an end in itself. There are other factors which should be taken into account before initiating new programs, e.g., possible expansion of existing programs.

ANSWER: Table 7 shows the response to this question. It should be noted that only 23% of the 261 respondents answered this question affirmatively.

TABLE 7 - PROGRAMS RECOMMENDED BY RESPONDENTS FOR CONNECTICUT

Educational Program	Hospitals	Visiting Nurse Associations	Nursing Homes	Rest Homes	Industrial Infirmaries	Totals
Medical Librarian.....	10	5	14	6	2	37
Music Therapist.....	3	1	4	1		9
Medical Record Librarian.....	11	1	3			15
Child Technician.....	2					2
Histologic Technician.....	1					1
Physical Therapy Assistant.....	1		1			2
Biomedical Equipment Technician....	4					4
* Nuclear Medicine Technologist.....	3					3
* Occupational Therapist.....	2					2
Psychiatric Nurse.....	1					1
Medical Secretary.....	1					1
* Medical Records Technician.....	2					2
Medical/psychiatric Social Worker..	1					1
Social Service Aide.....			1			1
Alcoholism/drug Counselor.....					1	1

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*Indicates programs recently offered or proposed in Connecticut.

No. A.4.a)

QUESTION: Can you foresee National Health Insurance changing employment patterns in Connecticut? Yes_____ No_____. Please explain.

ANSWER:

TABLE 8 - EFFECT OF NATIONAL HEALTH INSURANCE ON EMPLOYMENT

	Hospitals	Visiting Nurse Associations	Nursing Homes	Rest Homes	Industrial Infirmaries	Totals
Number of respondents.....	58	60	56	15	72	261
No effect.....	17 (29%)	10 (16%)	17 (30%)	8 (53%)	31 (43%)	83
Not applicable.....	12 (21%)	13 (22%)	16 (29%)	0	23 (32%)	64
Yes, will have an effect..	29 (50%)	37 (62%)	23 (41%)	7 (47%)	18 (25%)	114

Although 114 institutions thought national health insurance would have an effect on employment, 67% of them either offered an explanation outside the realm of health manpower or were without explanation. Of the remainder, 21% indicated an increase in the number of allied health personnel while 11% indicated an increase in employment.

No. A.4.b)

QUESTION: Can you foresee Connecticut Commission on Hospitals and Health Care changing employment patterns in Connecticut? Yes____ No____. Please explain.

ANSWER:

Note: The Commission on Hospitals and Health Care became operative October 1, 1973, just prior to the interview phase of the study.

TABLE 9 - EFFECT OF THE COMMISSION ON HOSPITALS AND HEALTH CARE ON EMPLOYMENT

	Hospitals	Visiting Nurse Associations	Nursing Homes	Rest Homes	Industrial Infirmaries	Totals
Number of respondents.....	58	60	56	15	72	261
No effect.....	18 (31%)	13 (22%)	16 (29%)	7 (47%)	33 (46%)	87
Not applicable.....	12 (21%)	31 (52%)	21 (38%)	1 (6%)	27 (38%)	92
Yes, will have an effect..	28 (48%)	16 (26%)	19 (33%)	7 (47%)	12 (16%)	82

While 82 institutions thought the Commission on Hospitals and Health Care would have an effect on employment, 76% of them either offered an explanation outside the realm of health manpower or were without explanation. Only 6% of those indicating an effect on employment thought there would be an increase in the number of allied health personnel; 10% thought it might cause a decrease in employment.

No. B.1.a), b) & c)

QUESTION: Do you have any difficulty hiring any particular type of personnel? (Please be specific regarding type of occupations and extent of difficulty.)

What do you see as the major causes for this difficulty?

What do you do in the absence of available personnel for these occupations?

ANSWER:

Tables 11 - 15 list the occupations mentioned in order of frequency, by institution, with the causes and solutions most often given. The following table lists a general response to the question of difficulty in hiring:

TABLE 10 - DIFFICULTY IN HIRING ANY OCCUPATION

	Hospitals	Visiting Nurse Associations	Nursing Homes	Rest Homes	Industrial Infirmaries	Totals
Number of respondents....	58	60	56	15	72	261
No difficulty.....	10 (17%)	29 (48%)	9 (16%)	5 (33%)	46 (63%)	99
Not applicable.....	3 (6%)	5 (8%)	6 (11%)	0	19 (27%)	33
Yes, some difficulty.....	45 (77%)	26 (43%)	41 (73%)	10 (67%)	7 (10%)	129

TABLE 11- HOSPITALS

Occupation	Frequency of Response	% of Affirmative Responses	Major Causes & Solutions Most Often Given	
			Cause	Solution
Registered Nurse.....	19	42%	Nature of job, in particular evening & night shifts.	Overtime & nursing pools.
Medical Record Librarian....	6	13%	Undersupply.	OJT & contract'l argnmts.
Occupational Therapist.....	5	11%	Undersupply.	Overtime.
Respiratory Therapist.....	5	11%	Undersupply.	OJT & overtime.
Dietitian.....	5	11%	Undersupply.	OJT & overtime.
Pharmacist.....	4	9%	Financial.	Overtime & curtail service.
Nurse Anesthetist, Registered.	3	6%	Nature of job & undersupply.	None given.
Medical Secretary.....	3	6%	Undersupply.	Overtime.
Licensed Practical Nurse....	2	4%	Undersupply & nature of job.	Use undertrained or do without.
Medical Technologist.....	2	4%	Undersupply & nature of job.	OJT & overtime.
Radiologic Technologist.....	2	4%	Nature of job.	Use undertrained and overtime.
Physical Therapist.....	2	4%	Undersupply.	OJT.
Dietetic Aide.....	2	4%	Undersupply & financial.	OJT & overtime.
Nuclear Medicine Technologist.	2	4%	Undersupply.	Do without.

(continued)

TABLE 11 - continued

Occupation	Frequency of Response	% of Affirmative Responses	Major Causes & Solutions Most Often Given	
			Cause	Solution
Biomedical Equipment Technician.	2	4%	Undersupply & nature of job.	Use undertrained and overtime.
RN, MS degree	1	2%	Undersupply.	None given.
Pediatric Nurse Associate	1	2%	Financial.	None given.
Histologic Technician	1	2%	Undersupply.	OJT
Cytotechnologist	1	2%	None given.	None given.
Music Therapist	1	2%	Nature of job.	Overtime.
Respiratory Therapy Technician	1	2%	Undersupply in area (CHE region 6).	Curtail service.
Social Worker, MSW	1	2%	None given.	None given.
Social Worker (degree unspec.)	1	2%	Financial.	OJT.
Medical Transcriptionist	1	2%	Undersupply in area (CHE region 6).	Curtail service.
Health Care Administrator	1	2%	Poor training.	Do without.
Medical Librarian	1	2%	Financial.	Curtail service.
Intravenous Therapy Technician	1	2%	None given.	None given.
Psychiatric Aide	1	2%	Nature of job.	Overtime.

TABLE 12 - VISITING NURSE ASSOCIATIONS

Occupation	Frequency of Response	% of Affirmative Response	Major Causes & Solutions Most Often Given	
			Cause	Solution
Public Health Nurse.....	13	50%	Undersupply.	Use undertrained.
RN, BS degree.....	8	30%	Financial.	OJT & curtail service.
Home Health Aide.....	3	11%	Financial.	Curtail service.
Registered Nurse.....	1	4%	Financial.	Overtime.
Community Health Aide.....	1	4%	Poor training.	Curtail service.

TABLE 13 - NURSING HOMES

Occupation	Frequency of Response	% of Affirmative Response	Major Causes & Solutions Most Often Given	
			Cause	Solution
Registered Nurse.....	26	63%	Nature of job & undersupply.	Overtime & nursing pools.
Licensed Practical Nurse.....	9	22%	Nature of job & undersupply.	Overtime & nursing pools.
Nursing Aide.....	9	22%	Undersupply of trained personnel.	Overtime.
RN, MS degree.....	1	2%	Nature of job.	Use undertrained.
Medical Record Librarian.....	1	2%	Undersupply.	Use undertrained.
Medical Records Technician.....	1	2%	None given.	None given.
Physical Therapy Assistant.....	1	2%	Nature of job.	None given.

TABLE 14 - REST HOMES WITH NURSING SUPERVISION

Occupation	Frequency of Response	% of Affirmative Response	Major Causes & Solutions Most Often Given: Cause	Solution
Registered Nurse.....	6	60%	Undersupply & financial.	Overtime.
Licensed Practical Nurse.....	4	40%	Undersupply & financial.	Overtime.
Nursing Aide.....	2	20%	Undersupply.	None given.

TABLE 15 - INDUSTRIAL INFIRMARIES

Occupation	Frequency of Response	% of Affirmative Response	Major Causes & Solutions Most Often Given: Cause	Solution
Registered Nurse.....	3	43%	Undersupply.	OJT & overtime.
Medical Secretary.....	2	28%	Nature of job & undersupply.	OJT.
Dental Hygienist.....	2	28%	Nature of job & undersupply.	OJT.
Industrial Nurse.....	1	14%	Nature of job.	None given.

No. B.1.d) & e)

QUESTION: Are there any occupations for which you have no difficulty in hiring?

In your opinion, are there any occupations for which there is an oversupply? (Specify)

The first question attempts to determine those occupations for which a balance exists between supply and demand. The second question is not only designed to determine those occupations for which there is an oversupply, but to allow an employer to comment on occupations outside of his province.

ANSWER:

The occupations which were mentioned most often were surprisingly those which had presented some difficulty to the employer, registered nurses and nurses aides. Interview and followup revealed that the employers thought there was a sufficient supply of registered nurses, but a shortage of those willing to work evening and night shifts. Similarly, employers thought there were an ample number of people willing to work as nurses aides, but a shortage of trained, reliable personnel for this occupation. Fourteen hospitals mentioned an oversupply situation with radiologic technologist. Eight hospitals mentioned an oversupply of licensed practical nurses.

No. B.2.b)

QUESTION: Have you noticed any trends in hiring practices regarding graduates of formal programs offering didactic and clinical training and persons in the same field who are trained on the job? Please explain.

ANSWER:

Of the 261 respondents, 89% either had not noticed any trends or had no comment. The remaining responses were varied, but the largest percentage, 8%, either had a preference for, or did in fact hire the formally educated.

No. B.2.a)

QUESTION: There are many health fields that have both baccalaureate and associate programs; for example, baccalaureate and associate degree R.N.s; physical therapist and physical therapy assistant; and medical technologist, and medical laboratory technician. Have you noticed any trends in your hiring practices regarding graduates of these four- and two-year programs? Please explain.

ANSWER:

Of the 261 respondents, 78% either had not noticed any trends or had no comment. The remaining responses were varied, but the largest percentage, 17%, either had a preference for, or did in fact hire the four-year graduate.

No. B.2.c)

QUESTION: Have you noticed any change in hiring practices in your institution regarding certified and non-certified persons in the same occupation? Please explain.

ANSWER:

Of the 261 respondents, 82% either had not noticed any trends or had no comment. The remaining responses were varied, but the largest percentage, 14%, either had a preference for, or did in fact hire the certified individual.

No. B.3.a)

QUESTION: Are you satisfied with the education/training of persons who are recent graduates of health occupations programs based in educational institutions? (Please comment with respect to specific occupations and educational settings by level, type, etc., if pertinent).

ANSWER:

Of the 261 respondents, 30% reported satisfaction with recent graduates of health occupations programs, 25% expressed dissatisfaction and 45% had no comment. The programs mentioned most often were the associate degree and baccalaureate registered nurse programs, the reason given being insufficient clinical/practical training.

No. B.3.b)

QUESTION: Do you have to provide immediate additional training for these personnel, i.e., they are not adequate as entry-level employees? Yes_____ No_____.

Why? How do you feel about this?

ANSWER:

Of the 261 respondents, 26% responded they did not have to provide immediate additional training and 36% had no comment. Although 38% stated that they did have to provide immediate additional training, over half of that percentage indicated that the training consisted of orientation to the specifics of the institution; only a small percentage indicated that the additional training is provided because schools do not prepare the individuals properly.

No. B.4.a)

QUESTION: We are interested in how recent graduates of health occupations programs can find jobs. What are the techniques you use in recruitment of personnel?

ANSWER:

TABLE 16 - RECRUITMENT TECHNIQUE UTILIZATION

	Never	Rarely	Occa-sionally	Fre-quently	Always	Blank (No check)	Not Applicable	Mean *
Direct advertisement on radio, TV or newspaper.....	15	13	55	60	71	13	34	3.58
State employment service...	62	32	45	27	23	38	34	2.13
Private employment service.	97	50	22	9	2	47	34	1.56
School placement services..	53	32	67	28	5	42	34	2.18
Word-of-mouth.....	5	9	59	76	52	25	35	3.49
Other.....	11	3	11	16	12	172	36	1.53

* Note: Numerical values, 1-5, were assigned to the responses "never" to "always", and then averaged to calculate the mean. Blank entries were assigned a numerical value of one since the intent of the response was "never".

No. B.4.b)

QUESTION: How often are the people that you hire referred by: Direct advertisement on radio, TV or newspaper; state employment service; private employment service; school placement service; word-of-mouth; other; or how often are they walk-ins?

ANSWER: (See table 17)

TABLE 17 - RECRUITMENT TECHNIQUE EFFECTIVENESS

	Never	Rarely	Occa-sionally	Fre-quently	Always	Blank (No check)	Not Applicable	Mean *
Direct advertisement on radio, TV or newspaper.....	17	13	53	95	24	17	42	3.28
State employment service....	71	35	43	28	2	40	42	1.97
Private employment service..	96	45	23	5	2	48	42	1.52
School placement services...	57	50	50	15	1	46	42	1.90
Word-of-mouth.....	8	11	84	91	11	14	42	3.26
Other.....	13	4	11	20	1	168	44	1.41
How often are they walk-ins.	27	48	62	48	2	31	43	2.48

* Note: Numerical values, 1-5, were assigned to the responses "never" to "always", and then averaged to calculate the mean. Blank entries were assigned a numerical value of one since the intent of the response was "never".

No. B.4.c)

QUESTION: Of the above (see table 17), what is your preferred recruitment technique, and why?

ANSWER:

The overwhelming majority of the respondents to this question preferred direct advertisement in radio, TV or newspaper and word-of-mouth as recruitment techniques. Direct advertisement, which referred mainly to newspaper ads, was preferred more than any other technique listed. The responses were evenly divided among the remainder of recruitment techniques with private employment service having the lowest response.

TABLE 18 - RANK OF RECRUITMENT TECHNIQUES BY UTILIZATION AND EFFECTIVENESS

The recruitment techniques were ranked by the values of their means for each type of facility. The highest mean was ranked first. The means were calculated for each technique by the same method described in tables 16 and 17. Note: A walk-in is not considered a recruitment technique, but is taken into account when figuring how personnel are hired. Therefore, walk-ins appear only under "effectiveness".

HOSPITALS

Utilization:	Effectiveness:
1st - word-of mouth	1st - direct ads
2nd - direct ads	2nd - word-of-mouth
3rd - state emp. svc.	3rd - walk-ins
4th - school placem't	4th - state emp. svc.
5th - other	5th - school placem't
6th - private emp. svc.	6th - other
	7th - priv. emp. svc.

INDUSTRIAL INFIRMARIES

Utilization:	Effectiveness:
1st - word-of-mouth	1st - word-of-mouth
2nd - direct ads	2nd - direct ads
3rd - state emp. svc.	3rd - walk-ins
4th - priv. emp. svc.	4th - priv. emp. svc.
5th - school placem't	5th - state emp. svc.
6th - other	6th - school placem't
	7th - other

VISITING NURSE ASSOCIATIONS

Utilization:	Effectiveness:
1st - word-of-mouth	1st - word-of-mouth
2nd - direct ads	2nd - direct ads
3rd - school placem't	3rd - walk-ins
4th - other	4th - school placem't
5th - state emp. svc.	5th - other
6th - priv. emp. svc.	6th - state emp. svc.
	7th - priv. emp. svc.

NURSING HOMES

Utilization:	Effectiveness:
1st - direct ads	1st - direct ads
2nd - word-of-mouth	2nd - word-of-mouth
3rd - school placem't	3rd - walk-ins
4th - state emp. svc.	4th - state emp. svc.
5th - priv. emp. svc.	5th - school placem't
6th - other	6th - priv. emp. svc.
	7th - other

REST HOMES WITH NURSING SUPERVISION

Utilization:	Effectiveness:
1st - direct ads & word-of-mouth	1st - word-of-mouth
	2nd - direct ads
3rd - state emp. svc.	3rd - state emp. svc.
4th - school placem't	4th - walk-ins
5th - priv. emp. svc.	5th - school placem't
6th - other	6th - priv. emp. svc.
	7th - other

No. B.4.d)

QUESTION: The Connecticut Institute for Health Manpower Resources, Inc. is undertaking the development of a Health Job Bank (a central, computerized job registry and data center devoted to health personnel) in cooperation with the Connecticut Department of Labor, the State Personnel Directors Association, and the Connecticut Hospital Association. Please comment on the possible usefulness the Health Job Bank might have for you.

ANSWER:

TABLE 19 - HEALTH JOB BANK

Type of Comment	Hospitals	VNA's	Nursing Hms.	Rest Hms.	Indust. Inf.		Total	Percentage
No use at all - a complete waste of time.....	0	1	4	3	13	=	21	8%
No use to him but does not reject the idea.....	3	0	1	0	0	=	4	2%
Neutral comment - one word, or description of what it should or shouldn't do.....	7	4	14	1	1	=	27	10%
Could use it to a limited extent (for substitutes).....	3	3	2	0	1	=	9	4%
Would be generally useful and a good idea for others...	13	20	8	4	21	=	66	25%
Would be a very good idea....	12	9	8	2	3	=	34	13%
Would be a great idea and extremely necessary.....	11	4	3	3	0	=	21	8%
NA or no comment.....	9	19	16	2	33	=	79	30%

Of the 261 institutions, 50% responded with a positive comment concerning the usefulness of a health job bank.

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CONNECTICUT EDUCATION/EMPLOYMENT STUDY FOR HEALTH MANPOWER

Appendix A: PROJECTION CHARTS OF SELECTED HEALTH OCCUPATIONS FOR 1980

List of Charts:

Number

1. Dietitian
   Medical Transcriptionist
   Medical Records Librarian

2. Dental Laboratory Technician
   Nuclear Medicine Technician
   Medical Laboratory Technician

3. Environmental Health Technician
   Health Care and Nursing Home Administration
   Mental Health Worker

4. Physical Therapist
   Occupational Therapy Assistant
   Recreation Therapist

5. Recreation Therapy Assistant
   Respiratory Therapist
   Respiratory Therapy Technician

6. Social Service Aide
   Cytotechnologist
   Radiologic Technologist

REQUIREMENTS AND SUPPLY PROJECTIONS

Connecticut, like all other states, faces the perplexing problem of assuring for its citizens available and accessible high quality health care. Part of the solution to this problem lies in the existence of sufficient, well-trained health personnel. In turn, this requires knowledge of present and future manpower needs and supplies to guide the program decisions of those involved in the education and training of health manpower. Unfortunately, knowledge of present and future requirements and supplies is often not available. Partially this reflects a failure of involved groups to collect the kind of basic data needed to make judgments about trends in health manpower numbers, distribution, work patterns, and utilization. The absence of knowledge, however, also reflects the rapid changes affecting health care delivery and the resultant difficulty in defining the nature of future systems. But the fact that one can't predict the future shape of the health delivery system, and therefore can't predict the number and type of personnel needed to staff it, does not mean one should not try to improve the knowledge base in so far as possible. To be more specific, in this section of the total study, an attempt has been made to develop quantitative projections of manpower needs and supplies in selected occupational categories.

Subsequent sections will identify in detail methodological assumptions and data sources involved in the projections. For the moment, it need only be noted that the basic approach to the requirements projections attempts to measure the manpower needed to supply increased future demand for health services as currently delivered. Many will question this approach by pointing out the manpower shifts inherent in different health delivery organizational forms. Others will suggest the projections do not consider such obvious supply and demand influences as price and wage changes and/or productivity changes. Still others will suggest differential rates of population and income change, the major variables in the requirements projections methodology, indicate the need for a non-linear rather than a linear model. Each of these objections, while valid to a degree, ignores a rather fundamental fact: the projections presented are not proposed as anything but reasonable indicators of future requirements and supplies. As reasonable indicators, the projections provide a baseline against which more qualitative judgments about the impact of presently unknown influences or potential changes in population and income trends, work patterns, practice patterns, and delivery systems might be assessed. Thus, the question is not whether the approach provides precise measures of future requirements and supplies. Instead, the question is whether the analytic approach suggested will provide a framework within which improved decision making can occur and which will facilitate manpower planning efforts. This we think the approach utilized will do, despite the obvious data gaps and its methodological inadequacies.

I. Requirements

A number of methods for estimating health manpower requirements have been suggested by various authorities. For example, specific studies have attempted to estimate current or projected requirements by one or more of the following methods: budgeted vacancies, ratios to total populations, perceived needs, ratios to patient population, requirements per unit of service, and staffing patterns.

Unfortunately, the variety of projection methodologies available tends to obscure one fundamental fact. That is, ultimately, the demand for health care personnel is tied to the demand for health care services; therefore, most projections, regardless of specific form, are variations on a basic analytic model which can be expressed as:

$$M_{y'} = f\left[\frac{M_y}{C_y} \cdot P_{y'} \cdot U\right]$$

where

M = Health manpower required

C = Health care requirement

P = Population requiring care

U = Utilization rate of health care

Y = A base year

y' = A future year

f = Factor or factors which change the characteristics of the health system from those prevailing in the base year.

Stated somewhat differently, future manpower requirement projections often begin with an attempt to project future utilization of medical or health care services. Unfortunately, future utilization levels (i.e., demand) are influenced by a wide variety of socio-economic and technological factors. These include such things as the age, sex, and racial compositions of the population; income and educational needs; the price of service involved; the prevalence and type of insurance; the supply and geographic distribution of personnel; staffing patterns; technology available; and work habits. As a result, predictions of future utilization levels and patterns is a far more difficult task than the simple statement above would suggest. Indeed, it would be more

valid to say accurate predictions would be impossible. Consequently, the more usual case is to attempt to assess the impact on future requirements of selected major determinants of demand. For example, examination of the demand determinants listed above indicates that among those most important would be population changes and income changes. Recognition of the impossibility of considering the influence of all determinants and the relative primacy of a few underlie the selection of the requirements projection methodology employed in this study.

A. The Methodology of the Basic Requirement Projection

The approach utilized is a variant of a model originally suggested by the Bureau of Economic Research of Rutgers University[1] and incorporated into the 1971 New Jersey Health Manpower Study.[2] It is conceptually quite similar also to the method employed by the Federal Division of Manpower Intelligence in its Impact Studies.[3]

As employed in this study, the requirement projection methodology involved the use of five primary sets of data:

1. Estimates of total resident population by age and sex distribution for selected years,
2. Estimates of per capita income changes over time,
3. Care utilization rates by population category and by type of care (i.e., units/year),
4. Current employment levels of selected health occupations in Connecticut plus estimates of budget vacancies, and
5. Estimates of services supplied annually by specific types of health manpower.

These data sets were combined to estimate the total expected impact of projected population and income change on demand for selected types of services and thus on manpower requirements by use of the following basic equation.

$$M_{y'} = \frac{M_y\,(1 + P + I + C)}{Q_{y'}}$$

Where $M_{y'}$ = number required at some future date

M_y = number required in base year

P = Percentage change in demand due to the effect of population change above (the Population Effect)

I = Percentage change in demand due to the effect of a change in income above (the Income Effect)

C = Percentage change in demand due to the combined effect of a simultaneous change: population and its income (interaction Effect)

Q_y = Annual output of services of a given type per unit of a specific kind of manpower

The following sections contain the data and calculations necessary for the derivation of these elements as well as a discussion of the population, income and interaction effects. Before turning to the details of the projection methodology, however, it should be noted that the application of the methodology does raise conceptual as well as practical problems. For example, the application of the methodology in the way described above to occupations not closely linked to the provision of the specified services would not be totally correct. In such cases, it was necessary, as in the New Jersey study, to employ the population increase alone as the population effect or to bypass the consideration of services provided by each individual. More troublesome, however, is the explicit assumption in this approach that, for the relevant time frame, there exists a fixed relationship between utilization and manpower requirements. Obviously, changed organizational arrangements or changes in technology will affect both the amount of total manpower need and the mix of required manpower. Consequently, an approach which examines basically independent effects of particular variables on the utilization of services must be viewed as only a general approximation of the complex interrelationships of all influences and the active linkage between these variables and manpower requirements. In particular it should be kept clearly in mind that these projections represent but one example of several possible manpower combinations capable of supplying the indicated level of services. Finally, the basic equation shown is most applicable to the projection of occupations (i.e., physicians) for which data on individual output of service units is known. Unfortunately, the occupations with which this study is most concerned are the very ones about which the least is known. Therefore, in actual application the active supply or current employment total was utilized as the base against which was multiplied the percentage increase in demand due to the population and income effects. Mathematically this creates no problems, but it should be clear that the basic projections derived, therefore, do not make allowances for productivity increases. That is, the projections are descriptions of the service utilization demand of a future population which differs from the present one only in the numbers in each age and sex category.

Provision for productivity changes are possible in this approach, of course. It could be included, for example, by adjustments in the value of the variable $Q_{y'}$ in those cases where the requisite information was known. For the most part, however, time, data, and financial constraints precluded any real attempt to adjust the basic projections to account for either major demand or supply increasing influences. On the other hand, in order to illustrate the significant magnitude of the potential impact on requirements from such influences, an adjustment to the basic estimates has been made to take into account implementation of national health insurance.

A similar adjustment was made in the New Jersey Study. However, the percentage increase in manpower demand reported there--ranging from 1.7 percent to 9.7 percent--was not considered an appropriate measure of the true increase for two reasons. One, the percentage increase was derived by simply estimating the incremental expenditure involved in several possible NIH proposals, over present total health care expenditures and converting this to a percentage change in expected gross medical expenditures. This was then assumed to be equal to the expected percentage increases in demand for all kinds of manpower. This approach, however, ignores such things as the effect of income distribution, existing levels of insurance

coverage, the effect of coinsurance and deductibles, and the specific services or benefits and populations covered in individual national health insurance proposals. Thus, it ignores the fact that a specific proposal can have a significantly different (i.e., as much as 100 percent or more) impact on demand depending upon the price elasticity or coinsurance assumptions made. Second, the use of a single estimate of the demand expansion potential which would accompany the passage of a specific proposal ignores the differential impact any bill would have on the various kinds of health manpower. For example, the percentage impact figures used in the New Jersey Study were substantially less than the literature on demand for medical care under various types of insurance would lead one to expect.[4] On the other hand, the New Jersey estimates when applied to manpower were often substantially greater than the percentage increase in demand for specific types of services, and therefore for specific types of personnel, than empirical studies would suggest. Consequently, for this study it was decided to make certain assumptions about the manpower shift impact of national health insurance based on estimates prepared for the Division of Manpower Intelligence.[5] These assumptions, while only inferences drawn from other data and not exactly the values reported in the DMI commissioned study, do appear to be better approximations of the total impact of national health insurance on specific care or service demand than an estimate based on percentage increase in gross expenditures.

With this background it is now possible to discuss the specific items included in the projection method and the national health insurance impact adjustment to the basic manpower projections.

B. The Population Effect

The "population effect" simply stated is the change in demand for a given service, and therefore for the resources needed to produce that service, due to a change in population. The population effect reflects a variety of factors: the absolute size of the population change; the age, sex, and other demographic characteristics of that population; and the utilization of specific types of services by the different population subgroups.

1. Population Data

The information on current and projected population utilized in this study was obtained from several sources: the U. S. Census; Department of Commerce Current Population Reports; population estimates prepared by the Connecticut Health Department; and, population projections prepared by the Office of State Planning, Connecticut Department of Finance and Control. Unfortunately, no single source reported the data in the exact form needed to prepare utilization projections by specific Comprehensive Health Planning Regions. Nor did the various projections prepared by the state agencies attempt to project the age and sex distribution of future populations. Therefore, the following tables represent both original calculations of data for different geographic areas and the synthesis of different data elements to provide distributive projections. For example, Table 1 provides a population

Table2: Estimated Population Increase: Connecticut and Comprehensive Health Planning Regions, 1960-1990

Comp. Health Plan. Region	1960 Pop.	% Increase 1960-70	1970 Pop.	1973 Pop.	% Increase 1970-73	1980 Pop.	% Increase 1970-80	1985 Pop.	% Increase 1980-85	1990 Pop.	% Increase 1985-90
Capitol	734,100	22.0%	895,480	905,700		1,058,100		1,153,200		1,236,900	
Central Naugatuck	192,220	9.5	218,731	226,000		252,800		275,500		202,300	
Groton Bridgeport	278,131	11.8	311,130	315,900		328,600		338,500		347,400	
Housatonic Valley	90,795	55.0	140,821	151,700		184,200		208,600		237,200	
Litchfield Hills	72,061	12.3	80,898	82,780		93,900		102,300		110,100	
Meridan Wallingford	81,770	12.1	91,673	92,200		108,300		141,100		122,800	
Mid-State	88,865	29.2	114,816	117,900		148,000		165,300		186,400	
South-Central	430,598	14.8	494,344	500,300		577,800		625,800		669,300	
South-Eastern	183,311	23.5	226,544	232,700		274,500		303,100		330,400	
South-Western	279,204	19.6	333,935	344,400		426,100		468,400		508,300	
Windham	96,186	28.2	123,337	126,840		158,900		181,100		194,900	
CONNECTICUT	2,535,234	19.6	3,031,709	3,108,000	2.5	3,611,200	16.2	3,936,000	9.0	4,236,000	7.6

Table 3: Age and Sex Distribution Percentages for Connecticut

	1970	%of Total	1980	%of Total	1985	%of Total	1990	%of Total *
MALE								
Under 17	492,369	16.2	588,600	16.3	669,100	17.0	720,100	17.0
17-24	183,302	6.0	231,100	6.4	228,300	5.8	245,700	5.8
25-44	358,089	11.8	465,900	12.9	543,200	13.8	584,600	13.8
45-64	319,933	10.6	332,200	9.2	330,600	8.4	355,800	8.4
65 and over	116,794	3.9	137,200	3.8	153,500	3.9	165,200	3.9
			1,755,000		1,924,000		2,071,000	
FEMALE								
Under 17	474,377	15.6	567,000	15.7	637,700	16.2	686,200	16.2
17-24	197,238	6.5	249,200	6.9	244,000	6.2	262,600	6.2
25-44	372,623	12.3	473,100	13.1	547,100	13.9	588,800	13.9
45-64	344,870	11.4	361,100	10.0	354,200	9.0	381,300	9.0
65 and over	172,114	5.7	205,800	5.7	228,300	5.8	245,700	5.8
TOTALS	3,031,709		3,611,200		3,936,000		4,236,000	

* uses 1985 distribution

summary for Connecticut by Comprehensive Planning Regions and Towns within each region.* It includes actual 1960 and 1970 Census counts, the most recent population estimate (as of July 1, 1972) by the Connecticut State Department of Health, and projections to 1980 as prepared by the Connecticut Office of State Planning. These trends and projections, plus state level population projections prepared by other groups such as the United States Bureau of Economic Analysis and the Department of Commerce's Census Bureau, were then utilized to develop the percentage increase in population estimates shown in Table 2. Finally, Table 3 combines the population projections of Table 2 with Census counts or projections, in percentages, of the age and sex distribution of the total population in selected years to derive the age and sex distribution totals estimated for the projected state population. It is these last estimates which allow the development of the utilization estimates which underlie the population effect measure.

It should be obvious from the above that these projections, dependent as they say, on incomplete and/or the averaging of primary data, are subject to question. One should view the projections, therefore, with considerable skepticism, particularly at the less than state level. At the same time, projections are not predictions and the presented projections do provide a valuable perspective from which to evaluate supply and/or program trends. Moreover, pointing out the deficiency in the data and reporting does highlight needed improvements in both areas.

2. Utilization Data

The previous tables showing population distribution projections have been combined with data from the most recent National Health Survey[6] to develop utilization estimates of hospital patient days, physicians visits, and dental visits (Tables 5, 7, and 8). These three services constitute the overwhelming proportion of delivered medical services. Thus, an assumption is being made that an increase (or decrease) in the utilization of these services might be used as representative of changed utilization of all services.

Admittedly, this approach does raise several questions: (1) the estimates of future hospitalizations are based on past utilization rates; won't this distort the estimates given changes over time in length of stay and admissions?; (2) the hospitalization utilization estimates are based on utilizations of short-term hospitals only; won't this distort the overall estimate? and, (3) the rates are based on national data; won't this tend to distort state projection?

The answer to each of these questions must be yes. On the other hand, the degree of distortion need not be so great as to invalidate the general usefulness of the estimates. For example, comparison of the 1970 hospitalization utilization estimates with actual in-patient days rendered in Connecticut hospitals indicate a difference of less than 3 percent between the two totals. Similarly, the "population effect" is expressed as a percentage increase in demand. Thus, if short-term hospital patient days

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*To conserve space, Table 1 has been deleted. If more detailed information than that provided by Table 2 is required, contact The Connecticut Institute for Health Manpower Resources, Inc.

Table 4:

Utilization Rate by Age and Sex For Short Stay Hospital Days

(National Data)

	Hospital Days	Population Base	Utilization Rate (Days/Person
Male	96,687	97,603	0.988
Under 17	13,195	33,875	0.389
17-24	8,053	12,863	0.626
25-44	17,557	22,842	0.768
45-64	32,708	19,832	1.649
65 and over	25,175	8,191	3,073
Female	116,332	104,757	1.1126
Under 17	10,332	32,669	o.331
17-24	14,691	14,411	1.019
45-64	30.098	21,932	1.372
65 and over	29,144	11,158	2.611

Source: Current Estimates from the Nation Health Interview Survey: United States - 1971. Vital Health Statistics Series 10- Number 79, Tables 15and 23

Table 5: Hospital Days Utilization Projections Based on Estimates of Connecticut Population Distribution

	Utilization Rates	1970 Population	1970 Hospital Days	1980 Population	1980 Hospital Days	1985 Population	1985 Hospital Days	1990 Population	1990 Hospital Days
Male		1,470,487	1,467,770	1,755,000	1,700,859	1,924,700	1,837,239	2,071,400	1,977,274
Under 17	0.389	492,369	1915.5	588,600	228,965	669,100	260,280	720,100	280,119
17-24	0.626	183,302	1147.5	231,100	144,669	228,300	142,916	245,700	153,808
24-44	6.768	358,089	2750.2	465,900	357,811	543,200	417,178	584,600	448,973
45-64	1.649	319,933	5275.2	332,200	547,798	330,600	545,159	355,800	586,714
65 and over	3.073	116,794	3589.3	137,200	421,616	153,500	471,706	165,200	507,660
Female		1,561,222	1,758,950	1,856,200	2,081,845	2,011,300	2,244,244	2,164,600	2,415,407
Under 17	0.331	474,377	1570.3	567,000	187,677	637,700	211,079	686,200	227,132
17-25	1.019	197,238	2009.5	249,200	253,935	244,000	248,636	262,600	267,589
25-44	1.284	372,632	4784.2	473,100	607,460	547,100	702,476	588,500	756,019
45-64	1.372	344,870	4732.0	361,100	495,429	354,200	485,962	381,300	523,144
65 and over	2.611	172,114	4493.5	205,800	537,344	228,300	596,091	245,700	641,523
		3,031,709	3,226,720	3,611,200	3,782,704	3,936,000	4,081,483	4,236,000	4,392,681

Table 6: Rates of Physician and Dental visits Per Person

Per Year : United States, 1971

Physician Units

Sex	All Ages	Under 17	17-24	25-44	45-64	65 and over
Both	4.9	4.2	4.9	4.8	5.4	6.7
Male	4.3	4.4	3,6	3.5	4.7	6.3
Female	5.5	3.9	6.1	6.1	6.1	7.1

Dental Units

Both	1.5	1.4	1.8	1.7	1.6	1.0
Male	1.4	1.3	1.4	1.4	1.6	1.0
Female	1.7	1.6	2.0	2.0	1.7	1.1

Table 7: Physicians Visit Projections Based on Estimates of Connecticut Population Distribution

Male	Visits/ Person/ Year	1970 Population	1970 Units	1980 Population	1980 Units	1985 Population	1985 Units	1990 Population	1990 Visits
Under 17	4.4	492,369	2,166,436	588,600	2,589,840	669,100	2,944,040	720,100	3,168,440
17 to 24	3.6	183,302	659,887	231,100	831,960	228,300	821,880	245,700	884,520
25 to 44	3.5	358,089	1,253,312	465,900	1,630,650	543,200	1,901,200	584,600	2,046,100
45 to 64	4.7	319,933	1,503,685	332,200	1,561,340	330,600	1,553,820	355,800	1,672,260
65 and over	6.3	116,794	735,802	137,200	864,360	153,500	967,050	165,200	1,040,760
All Ages	(4.29)	1,470,487	6,319,122	1,755,000	7,478,150	1,924,700	8,187,990	2,071,400	8,812,080
Female									
Under 17	3.9	474,377	1,850,070	567,000	2,211,300	637,700	2,487,030	686,200	2,676,180
17 to 24	6.1	197,238	1,203,152	249,200	1,520,120	244,000	1,488,400	262,600	1,601,860
25 to44	6.1	372,623	2,273,000	473,100	2,885,910	547,910	3,337,310	588,800	3,591,680
45 to 64	6.1	344,870	2,103,707	361,100	2,202,710	354,200	2,160,620	381,300	2,325,930
65 and over	7.3	172,114	1,256,432	205,800	1,502,340	228,300	1,666,590	245,700	1,793,610
All Ages	(5.5)	1,561,222	8,686,361	1,856,200	10,322,380	2,011,300	11,139,950	2,164,600	11,989,260
TOTAL		3,031,709	15,005,483	3,611,200	17,800,530	3,936,000	19,327,940	4,236,000	20,801,340

Table 8: Dental Visit Projections Based on Estimates of Connecticut Population Distribution

Male	Visits/ Person/ Year	1970 Population	1970 Visits	1980 Population	1980 Visits	1985 Population	1985 Visits	1990 Population	1990 Visits
Under 17	1.3	492,369	640,080	588,600	765,180	669,100	869,830	720,100	936,130
17 to 24	1.4	182,302	256,623	231,100	323,540	228,300	319,620	245,700	343,980
25 to 44	1.4	358,089	501,325	465,900	652,200	543,200	760,480	584,600	818,440
45 to 64	1.6	319,933	511,893	332,200	531,520	330,600	528,960	355,800	569,280
65 and over	1.0	116,794	116,794	137,200	137,200	153,500	153,500	165,200	165,200
All Ages	(1.39)	1,470,487	2,026,715	1,755,000	2,409,700	1,924,700	2,632,390	2,071,400	2,833,030
Female									
Under 17	1.6	474,377	759,003	567,000	907,200	637,700	1,020,320	686,200	1,097,920
17 to 24	2.0	197,238	394,476	249,200	498,400	244,000	488,000	262,600	525,200
25 to 44	2.0	372,623	745,246	473,100	946,200	547,100	1,094,200	588,800	1,177,600
45 to 64	1.7	344,870	586,279	361,100	613,870	354,200	602,140	381,300	648,210
65 and over	1.1	172,114	189,325	205,800	226,380	228,300	251,130	245,700	270,270
All Ages	(1.71)	1,561,222	2,674,329	1,856,200	3,192,000	2,001,350	2,001,300	2,164,600	3,719,200
TOTALS		3,031,709	4,701,004	3,611,200	5,601,750	3,931,000	6,008,180	4,236,000	6,5552,230

exhibit a stable relationship to total patient days, then the percentage increase in that area can be used as a proxy measure of the percentage increase in demand for all hospital days and services. Since 1967, admissions to short-term general hospitals have tended to account for approximately 91 percent of all hospital admissions in the United States. However, a greater relative decline in average length of stay in all hospitals than in short-term hospitals has resulted, particularly since 1965, in dramatic increase in the percentage of total in-patient days accounted for by the short-term general hospitals. Consequently, a bias would be introduced by the approach used. However, the degree of introduced bias will be reduced by the facts that (1) the percent of total admissions to which an inappropriate demand value is attached will be small and growing smaller and (2) the absolutely greater average length of stay in these non-general short-term institutions would act to offset errors of the direction of change in demand resulting from the use of change in demand on short-term care. Finally, as previously noted, comparison of the various services actually utilized in the state with what would have been expected from application of national rates to the Connecticut population suggests this will produce reasonable approximations.

Therefore, since the data needed to develop totally reliable estimates of the various factors influencing the demand for a disaggregated set of health services does not exist within the state or in the literature, the approach utilized appears an acceptable, if not completely unquestionable, one. In any event, the result of the various estimates and calculations is to suggest a Population Effect on the demand for these medical services over selected time periods as follows:

	Hospital Days	Physical Services	Dental Services
1970-1980	+ 17.2%	+ 18.6%	+ 19.1%
1980-1985	+ 7.9%	+ 8.5%	+ 8.7%
1985-1990	+ 7.6%	+ 7.6%	+ 7.6%

It should be reemphasized that, despite the fact that these three categories of care do constitute the majority of delivered services, it would be difficult to relate directly the demand for many types of health personnel to these three service demands. Consequently, following the convention utilized in the New Jersey Study, in some instances the percentage increase in total population recorded in Table 2 will be used as the measure of the population effect.

C. The Income Effect

The "income effect" is the product of the percentage change in per capita income and an empirical term known as "income elasticity". This latter term is equal to the percentage change in the quality demanded of a good as a result of a given percentage change in income.

The calculations of the income effect in this study differed in two significant ways from a similar effort in the previously cited New Jersey Study. First, the income effect in that study was considered to be equal to the product of the percentage change in total personal income and the value of the income elasticity term. However, total personal income can increase even though per capita income is falling. This merely requires population to increase more than proportionately to income. Therefore, the percentage change in per capita income seemed more appropriate if one wished to separate the population and income effects.

Information about current and previous levels of personal income at the state or substate level is available from many sources. However, projections, particularly long-term projections, of future income levels are virtually nonexistent. Neither the U. S. Commerce Department publications nor state agencies could provide this information. Indeed, the only Connecticut income projections which could be found were the following:[7]

Connecticut Total Personal Income
in 1967 Dollars

1980	$ 20,477,000
1990	$ 30,649,000
2000	$ 46,965,000
2010	$ 70,351,000
2020	$104,620,000

Extrapolation of these estimates suggests a 1985 state total personal income figure of $25,525,000. Table 9, which combines these income estimates and the population estimates of Table 3, indicates projected per capita incomes for the 1970-1990 period and the consequent percentage changes in per capita income.

Table 9: Connecticut Per Capita Income Projection: 1970-1990

	Per Capita Income	% Increase From Previous Data
1970	$4443	
1980	$5670	27.6
1985	$6485	14.4
1990	$7235	11.6

Second, the income elasticity values utilized in the New Jersey Study were those reported in a single 1964 study by the American Medical Association.[8] More to the point, the specific point estimates selected were those reported at the lowest limit of an oftentimes wide range of values. The selection of the lowest possible values, despite the A. M. A. study's note that the "true" elasticity value would probably lie somewhere within the range, quite probably significantly biased downward the New Jersey income effect estimates. Unfortunately, subsequent income elasticity studies[9] have done little to clarify what the true value(s) should be other than to suggest strongly that it is positive and with a maximum value less than unity except in the case of dental expenditures.

Therefore, for this study, it was decided to assume a range of values within which empirical research suggested the true value would lie. Thus, it is assumed that the effect of a 10 percent increase in income would increase expenditures on selected components of medical care as follows:

Physicians Visits	5-10%
Dental Visits	7-12.5%
Hospital Patient Days	1-5%
General Medical Care Expenditures	5-15%

The use of a range rather than a specific point estimate is useful also in that it vividly illustrates the sensitivity of the estimates to the value chosen for the elasticity parameter.

In any event, the "income effect" values for these selected services which have been utilized in this study are:

	Hospital Days	Physician Visits	Dental Services
1970-1980	2.8/13.8	13.3/27.6	19.3/34.5
1980-1985	1.5/7.2	7.2/14.4	10.1/17.9
1985-1990	1.2/5.8	5.8/11.6	8.1/14.5

D. The Interaction Effect

The two effects discussed on the previous page, the population and income effects, measure the impact upon demand of a population increase when income is held constant and of income when population is held constant. The "interaction effect", on the other hand, allows for the impact of a simultaneous increase in population and that population's level of income. Its value is equal to the product of the "population effect" and the "income effect". Table 10 shows the value of the various interaction effects for the affected time periods. This table is also a summary table in that it combines the various demand increase estimates due to all the previous calculations into a total estimate of the percentage change in demand for the selected care categories in each of the stated time periods.

All the information required to project requirements has now been developed. The projections themselves are reported in Tables 12 (for 1975) and 13 (for 1980).

E. The Potential Impact of National Health Insurance

If, as seems highly likely, some form of national health insurance system is implemented in the next few years, one would expect this to have a major impact on the demand for health manpower. Systematic attempts to estimate the magnitude of that impact would require time and financial resources far in excess of that available to this study. It also assumes the availability of data about such things as the proportion of the population covered by various types of health insurance, the degree of coinsurance presently imposed on those who have insurance, and the price elasticity of demand for a variety of services. Unfortunately, this assumption is not valid. Consequently, it was decided merely to suggest the potential magnitude of the impact of possible types of insurance programs. As previously noted, the basic information source underlying the impact estimates used in this study was a report prepared by Robert R. Nathan Associates (RNA) for the Division of Manpower Intelligence.[10]

Since the impact estimates are based on inferences from the RNA report, a brief description of the methodology employed in that report may be useful.

Robert Nathan Associates hypothesized that the total demand for a given type of health services in a specific year would be a function of (1) the age-sex composition of the population being served; (2) the income distribution prevailing in that year; and, (3) the insurance coverage status under the existing private health insurance system and public health assistance programs. The study, therefore, first developed estimates of the percentage of the population covered by third parties, the actual average coinsurance rate and the price elasticity of demand for selected care categories. These estimates, in turn, were used to formulate three kinds of demand models from which the total utilization by care category under six archetypal national health insurance plans and four price elasticity assumptions was estimated for specific future years. Finally, changes in health manpower requirements resulting from the service demand change occasioned

Follows 1'

Table 10:

Summary of Population, Income, Interaction and their Combined Effects

	Population Effect	Income Effect	Interaction Effect	Combined Effect % Total Increase Demand
1970- 1980				
Hospital Days	17.2	2.8/13.8	0.5/2.4	20.5/33.4
Physician Visits	18.6	13.3/27.6	2.5/5.1	34.4/51.3
Dental Visits	19.1	19.3/34.5	3.7/6.6	42.1/60.2
% Population Increase	16.2	2.8/13.8	0.5/2.2	19.5/32.2
	16.2	13.3/27.6	2.2/4.5	31.7/48.3
	16.2	19.3/34.5	3.1/5.6	38.6/56.3
1980-1985				
Hospital Days	7.9	1.5/7.2	0.1/0.6	9.5/15.7
Physician Visits	8.5	7.2/14.4	0.6/1.2	16.3/24.1
Dental Visits	8.7	10.1/17.9	0.9/1.6	19.7/28.2
% Population Increase	9.0	1.5/7.2	o.1/o.6	10.6/16.8
	9.0	7.2/14.4	0.6/1.3	16.8/24.7
	9.0	10.1/17.9	0.9/1.6	21.0/28.5
1985-1990				
Hospital Days	7.6	1.2/5.8	0.1/0.4	8.9/13.8
Physician visits	7.6	5.8/11.6	0.4/0.9	13.8/20.1
Dental Visits	7.6	8.1/14.5	0.6/1.1	16.3/23.2
% Population Increase	7.6	1.2/5.8	0.1/0.4	8.9/13.8
	7.6	5.8/11.6	0.4/0.9	13.8/20.1
	7.6	8.1/14.5	0.6/1.1	16.3/23.2

by the implementation of national health insurance were calculated. These manpower shift factors (expressed as percentage change in requirements), if directly applied to demand projections based on population change alone, would provide estimates of the impact of national health insurances as compared to the manpower requirements under the assumption of no change in the present organization and financing of health care services.[11]

Table 11 indicates the present study's assumed range of increase in health manpower requirements which result from the implementation of national health insurance. Three things should be pointed out related to Table 11. First, the range hypothesized here is based on inferences drawn from a study prepared for the Division of Manpower Intelligence. This range, however, is not based on any estimates prepared or yet accepted by DMI nor is the range utilized exactly that reported within the Nathan Associates study. Second, while no attempt has been made to associate an impact estimate with a specific type of insurance proposal, it is clear that the minimum estimates would be more consistent with proposals of the Kennedy type. Finally, the range hypothesized is for the overall requirement change. Individual occupations will experience a shift which would tend to be at one end or the other of the range. No attempt has been made to incorporate the disaggregated manpower shift estimates from the Nathan Associates study into the projections made in this report. However, examination of their data would suggest that broad fields of personnel could be classified as more likely to experience a demand shift more consistent with either the high or low estimates in the range. This has been done below for illustrative purposes only:

Field	Probable Location Within the Overall Range
Physicians	medium
Dentists	medium
Pharmacists	low
Registered Nurses	low
Physician Extender	high
Allied Health Manpower:	
Administrators	low
Medical Librarian	low
Medical Records	low
Clinical Laboratory	low
Dietary	medium
Radiologic	low
Therapy	low
General Medical	medium
Nursing Care	low
Vision Care	high
Pharmacy	low
Dental Care	medium
Hospital Support	low

Follows 1.2

Table 11: Estimated Range of Potential Impact
National Health Insurance Proposals
on Health Manpower Requirements
for Selected Time Periods

	Percentage Increase in Requirements	
	Minimum	Maximum
1980	5	30
1985	2	20
1990	2	20

F. Requirements as Perceived by Employers

Previous sections detailed the data sources and methodology involved in the development of the basic requirements projections. Recognition of the "status quo" assumption underlying that approach suggested the need to introduce the National Health Insurance adjustment as a method of indicating the potential impact of factors which might change the status quo. In addition, as part of an employer survey designed to obtain information about current levels of manpower deployment, employers were asked to estimate the number of budgeted positions they would have in 1975 and 1980. Although such projections have well-recognized limitations, they are reported here (Tables 12 and 13) since such projections serve two useful purposes: (1) unlike the basic projections, the employer projections do allow for individual judgments about changes in the delivery system and its financing and the consequent impact on employment levels and (2) when compared to the basic projections, the employer projections do provide suggestive evidence of increasing or decreasing demand areas specific to the state or local area.

II. Supply

In general, the short-range future supply of manpower in a health occupation can be projected more easily than future requirements. It involves a procedure consisting of three basic steps (see Figure 1). First, a current supply estimate is established as the base of the projection. As used here, current supply generally refers to actual employment of individuals in an occupation, usually without reference to the nature of their training. Thus, inactive individuals are not included in the supply estimate. This definition of supply, together with the absence of any employment data for many health occupations introduces two potential problems: (1) the employer survey which served as the basis for estimates of current employment did not include private practitioner offices, and therefore in selected occupations (i.e., nurses) excluded important employment sources; and (2) the supply estimates do not include individuals trained but not presently working who might enter the labor market. To correct for the first problem, for selected occupations known to have significant employment outside the sites interviewed, the base supply estimate was developed either by extrapolation or, alternatively, by use of total active licenses as the base figure. The second problem, a relatively minor factor in most cases, was corrected for by the use of a "net attrition factor" in a subsequent step in the estimate procedure. Second, the annual number of entrants from all sources is developed for the period that the projections is to cover. As Figure 1 indicates, the sources of entrants are many. However, in essence, in the absence of migration data, the major input is of graduates of state programs as determined by current enrollments, program length, and student attrition rates. In those cases where it was possible to estimate the other entrant variables involved, the supply projections did so. In general, however, an explicit assumption was made that,for many occupations (i.e., technicians), geographical mobility between states was either quite limited or offsetting. Third, the base current supply is

Figure 1: The Estimation of Future Supply

Supply in the future period	equals	Current supply	plus	
		Entrants during period	minus	Occupational losses during period

$$(E+UE)_{N+1} = (E+UE)_N + TP_S + TP_O + OC + NLF + I_{N \to N+1} - (D + R + T + OL)_{N \to N+1}$$

Where E = Employment

UE = Unemployed workers seeking work in occupation

TP_S = Entrants from training programs designed to prepare workers specifically for the occupation

TP_O = Entrants from training programs designed to prepare workers for other occupations

OC = Entrants from other occupations

NFL = Entrants from persons not in the labor force

I = Immigrants entering the occupation

D = Deaths

R = Retirements

T = Transfers

OL = Other losses (i.e., emigrants)

aggregated with estimates of the annual number of entrants, and annual occupational losses are deducted. Ideally, the estimate of occupational losses should include losses due to death, retirement, and occupational shifts adjusted for reentry of workers into the active pool. Furthermore, the estimates should be sex and age--specific in order to reflect differences in losses due to these factors among professions with different age and sex characteristics. Unfortunately, information on both the age-sex makeup of the occupations which constitute the major focus of this study and their separation-reentry patterns basically does not exist. As a result, a single net separation rate of 4 percent was assumed. This rate, based on Department of Labor estimates of total separation rates and accession rates for women,[12] was applied both to the base supply of active health manpower and to the estimated current input.

In sum, while the projection procedure is more straightforward in the case of supply than in the case of requirements, the application of the procedure is no less difficult due to limited data availability. Thus, as in the case of the requirement projections, the supply projections are presented as reasonable indications of the general level of supply, not as precise predictions. The limited data available also emphasizes the fact that increasing the sophistication of the methodology in the sense of introducing additional variables about which assumptions must be made will not materially improve the validity of the projection. Rather, as Hansen[13] argues, the need is to improve our knowledge about the "determinants of requirements and supplies" so that we can improve the quality of the underlying assumptions.

The supply estimates for the occupations included in this study are reported in Table 13. It should be noted that the figure reported for 1980 is the result of a year by year projection of the elements discussed above. These intermediate supply projections, although available, have not been reported due to space considerations.

III. Summary and Conclusions

A. Detailed Health Manpower Requirement Projections

The following section presents the requirement projections developed for each of the occupational categories included in the study. Tables 12 and 13 list these categories. For each occupation the following information is shown for the years 1975* (Table 12) and 1980 (Table 13).

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*Since it would be impossible to pass National Health Insurance legislation in time for its implementation and impact on service demand prior to 1975, Table 12 does not include a national health insurance adjustment to the basic study requirements projection.

Table 12: Supply Requirements Summary: 1975

Occupational Title	Employers' Projections			Basic Study Projections		NHI Adjusted Projections	Supply Projections	Projected Surplus and Deficit
	A	B	C	D	E	F	G	Surplus H
Administration								
Nursing Homes Administration	238.1	237.0	236.2	252	257		a.	
Hospital Administration	82.0	81.7	81.7	88	89		204	
Health Care and Service Administration	180.1	208.9	209.5	181	185		520-530	
Dental								
Dental Hygienist	193.9	193.9	193.9	898 b	931 b		761 c	
Dental Assistant	84.7	85.3	85.3	79	82		354	
Dental Laboratory Technician	757.7	770.5	776.9	682	707		560	
Education								
Health Educator	66.3	66.0	66.0	68	64		69-77	
Teacher, Special Education	(84.2)	(82.5)	(82.5)	1936 d.	2123 d.			
Environmental Health								
Environmental Health Technician	54.6	54.6	54.6	59	65		137	
Environmental Health Technologist	215.1	215.1	215.1	258	322		208	
Environmental Health (unspecified)	28.0	28.0	28.0	26	29			
Laboratory								
Histologic Technician	73.5	75.9	75.9	63	64		no data	
Cytotechnologist	86.2	88.0	88.0	90	91		114-136	
Certified Laboratory Assistant	166.7	168.3	168.3	156	159		166-179	

Table 12: Supply Requirements Summary, 1975

Occupational Title	Employers' Projections			Basic Study Projections		NHI Adjusted Projections	Supply Projections	Projected Surplus and Deficit
	A	B	C	D	E	F	G	Surplus H
Laboratory								
Medical Laboratory Technician	439.7	445.6	447.9	435	441		405	
Medical Technologist	959.2	985.7	991.1	939	952		982	
Medical Technologist M.L.T. Combined				42	43			
Medical Laboratory Assistant (ojt)	136.2	136.2	136.2	157	160			
Medical Records								
Medical Records Librarian	71.4	181.4	192.6	155	157		no data	
Medical Records Technician	154.7	170.0	174.6	141	143		no data	
Medical Transcriptionist	334.6	335.5	335.6	335	341		304	
Nursing								
Registered Nurse	12,553.8	12,797.1	12,978.3	20,035 e.	21,978 e.		19,000-20,000 f	
Licensed Practical Nurse	439.2	4544.7	4633.3	6100 g	6217 g.		6200-6300 h	
Nursing Aide	10,194.6	10,668	11,137.8	9632	9769		9045-9708	
Psychiatric Aide	2351.9	2359.6	2359.6	2194	2236		1828	
Nurse Anesthetist	233.7	235.9	236.1	230	242		205-232	
Pediatric Nurse Associate	40.0	42.3	42.3	31	34		37	
Adult Nurse Practitioner	34.8	38.2	38.4	30	33		43	
Nurse Midwife	13.0	13.0	13.0	7	7.7		27	

Table 12: Supply Requirements Summary, 1975

Occupational Title	Employers' Projections			Basic Study Projections		NHI Adjusted Projections	Supply Projections	Projected Surplus and Deficit Surplus
	A	B	C	D	E	F	G	H
Physician Assistants								
Physician Assistant	6.0	6.4	6.4	4.2	4.3		12.4	
Physician Assistant in Pathology	43.9	43.9	43.9	31.5	33		59.2	
Radiology								
Radiologic Technologist	834.6	853.4	862.5	844	856		1152-1244	
Radiation Therapy Technologist	41.5	45.8	45.8	37	38		47.6	
Nuclear Medicine Technologist	75.0	81.5	81.5	69	70		58	
Rehabilitation Therapy								
Speech Pathologist and Audiologist	120.1	136.9	140.3	104	108		120-162	
Counselor, Rehabilitation Services	377.8	388.4	388.4	371	376		372	
Rehabilitation Aide	41.3	41.3	41.3	40	41			
Orthotist and Prosthetist	16.6	16.6	16.6	15	16		18	
Physical Therapist	516.6	572	595.9	439	462		620 1.	
Physical Therapy Assistant	70.1	81.6	95.3	38	40			
Physical Therapy Aide	139.2	146.6	151.8	110	112			

Supply Requirement Summary

Occupational Title	Employers' Projections			Basic Study Projections		NHI Adjusted Projections	Supply Projections	Projected Surplus and Deficit Surplus
	A	B	C	D	E	F	G	H
Rehabilitation Therapy (con't)								
Occupational Therapist	152.4	157	157	128	130		140	
Occupational Therapy Assistant	91.6	91.7	91.7	74	75		122	
Recreational Therapist	265.9	276.2	289.1	229	242		273	
Recreation Therapy Assistant	70.1	81.6	95.3	55	56		111	
Recreation Worker	13.0	13.0	13.0	10.5	10.7			
Recreation Aide	7.0	7.0	7.0	4.2	4.3			
Occupational Therapy Aide	32.0	32.0	32.0	33.6	34.3			
Respiration Therapy								
Respiration Therapist	237.5	243.8	243.8	223	227		375	
Respiration Therapist Technician	239.3	243.8	243.9	221	224		272-318	
Social Services								
Social Worker	770.7	817.0	827.9	665	730		1070	
Social Service Aide	83.2	90.1	92.7	75	82		223-342	
Community Health Aide	53.9	54.4	54.4	39	39.5		no data	
Mental Health Worker	109.1	130.8	130.8	78.5	85		201-230	

Occupational Title	Employers' Projections			Basic Study Projections		NHI Adjusted Projections	Supply Projections	Projected Surplus and Deficit
	A	B	C	D	E	F	G	Surplus H
echnicians								
iomedical Equipment Technician	16.0	16.6	16.6	15	16		18	
urgical Technician	346.0	350.6	350.6	353	358		262-288	
dditional Occupation								
iological Photographer	10.0	10.0	10.0	10	10.2			
linical Psychologist	196.8	212.4	212.7	178	196		162	
edical Illustrator	6.0	6.0	6.0	3.3	3.5			
edical Librarian	53.6	54.3	54.3	48	49			
harmacist	294.2	300.2	302.4	2280 j	2501 j		2530 k	
ietition	322.4	335.1	351.9	298	302		270	

Table 13: Supply Requirements Summary: 1980

Occupational Title	Employers' Projections			Basic Study Projections		NHI Adjusted Projections	Supply Projections	Projected Surplus and Deficit
	A	B	C	D	E	F	G	Surplus H
Administration								
Nursing Homes Administration	238.2	237.0	236.2	274	296	299/371	260 a.	
Hospital Administration	86.3	87.4	87.4	95	102	104/129	314	
Health Care and Service Administration	200.8	204.5	205.6	197	212	214/265	a.	
Dental								
Dental Hygienist	208.5	208.5	208.5	1065 b.	1168 b.	1173/1452 b.	837.6 c.	
Dental Assistant	112.3	114.7	114.7	94	103	104/129		
Dental Laboratory Technician	968.3	1003.6	1016	808	887	890/1102	682.7	
Education								
Health Educator	73.3	73.1	73.1	80	100	95/117	163	
Teacher, Special Education	(82.6)	(77.3)	(77.3)	2275 d.	2848 d.	2689/3329	1931-2193	
Environmental Health								
Environmental Health Technician	63.7	63.7	63.7	70	87	82/101	260	
Environmental Health Technologist	222	222	222	258	322	305/377	240	
Environmental Health (unspecified)	28	28	28	31	38	37/46		
Laboratory								
Histologic Technician	84.1	89.0	89.2	68	74	75/92		
Cytotechnologist	93.8	96.7	96.9	97	104	106/131	235	
Certified Laboratory Assistant	187.2	183.4	184	170	183	186/230	184-210	

Supply Requirements Summary: 1980

Occupational Title	Employers' Projections			Basic Study Projections		NHI Adjusted Projections	Supply Projections	Projected Surplus and Deficit
	A	B	C	D	E	F	G	Surplus H
Laboratory (con't)								
Medical Laboratory Technician	481	496.6	503.4	470	507	514/636	412	
Medical Technologist	1127.4	1213.2	1235.6	1016	1096	1109/1373	1190	
Medical Technologist M.L.T. Combined				45	49	49/51		
Medical Laboratory Assistant (ojt)	80.4	80.4	80.4	171	184	186/230		
Medical Records								
Medical Records Librarian	173.9	186.2	194.5	167	180	182/225		
Medical Records Technician	164.7	186.9	186.9	153	165	167/207		
Medical Transcriptionist	382.8	401.5	402.3	364	393	397/491	300	
Nursing								
Registered Nurse	13,115.9	13,898.3	14,137.1	21,164 e.	25.142 e.	25,311/30,100 e.	23,000-24,000 f	
Licensed Practical Nurse	4473,9	4799.4	4914.6	6632 g	7154 g	7248/8961 g	8278 h	
Nursing Aide	10,437	11,100.3	11,627	10,425	11,245	11,376/14,085	10,637	
Psychiatric Aide	2362.3	2410.2	2411.0	2386	2574	2604/3224	1712	
Nurse Anesthetist	275.9	281.2	282.0	240	295	284/352	272	
Pediatric Nurse Associate	48.4	54.8	57.6	37	45	43/59	58	
Adult Nurse Practitioner	47.8	59.2	60.1	36	45	42/52	62	
Nurse Midwife	17.2	17.2	17.2	8.5	10.5	10/15	64	

Supply Requirements Summary: 1980

Occupational Title	Employers' Projections			Basic Study Projections		NHI Adjusted Projections	Supply Projections	Projected Surplus and Deficit Surplus
	A	B	C	D	E	F	G	H
Physician Assistants								
Physician Assistant in Pathology	7.0	7.8	7.8	4.6	5	5/6.2	22	
Physician Associate	57.6	57.6	64.4	36	40	40/49	94	
Radiology								
Radiologic Technologist	871.1	906.4	918	913	986	997/1234	1742	
Radiation Therapy Technologist	47.5	55.8	55.8	40	43	47/55	62	
Nuclear Medicine Technologist	85	98.3	98.3	75	81	82/101	56	
Rehabilitation Therapy								
Speech Pathologist and Audiologist	141.2	172.5	178	111	132	128/159	247	
Counselor, Rehabilitation Services	445.7	463.3	463.3	401	433	433/536	433	
Rehabilitation Aide	54.8	54.8	54.8	43	46	47/59		
Orthotist and Prosthetist	20.3	25.8	25.8	18	22	21/26	30	
Physical Therapist	529.4	620.8	645	475	564	545/675	823	
Physical Therapy Assistant	68	81	87	41	49	47/59		
Physical Therapy Aide				120	130	131/163		

E-14h

Occupational Title	Employers' Projections			Basic Study Projections		NHI Adjusted Projections	Supply Projections	Projected Surplus and Deficit Surplus
	A	B	C	D	E	F	G	H
Technicians								
Biomedical Equipment Technician	28.0	29.7	29.7	15	18.5	18/23		
Surgical Technician	364	375.9	377.3	382	412	417/516	305-360	
Additional Occupations								
Biological Photographer	12.5	12.8	12.8	11	15	14/17		
Clinical Psychologist	205.7	234.9	237.0	209	262	242/305	169	
Medical Illustrator	8.5	8.5	8.5	4	5	4.7/5.9		
Medical Librarian	55.6	61.3	61.5	52	56	57/70		
Pharmacist	316.3	332.6	335.6	2680 [j]	3355 [j]	3167/3922 [j]	2730 [k]	
Dietition	327	348.7	364.4	322	347	351/434	273	

Supply Requirement Summary; 1980

Occupational Title	Employers' Projections			Basic Study Projections		NHI Adjusted Projections	Supply Projections	Projected Surplus and Deficit Surplus
	A	B	C	D	E	F	G	H
Rehabilitation Therapy (con't)								
Occupational Therapist	162.9	175.8	175.8	139	150	152/189	194	
Occupational Therapy Assistant	97.9	98.2	98.2	81	87	88/109	189	
Recreation Therapist	269.1	283.6	297.7	251	295	287/355	442	
Recreation Therapy Assistant	72.6	85.3	99.0	59	64	65/81	199	
Recreation Worker	13.0	13.0	13.0	11.5	12.5	12.6/15.6		
Recreation Aide	7.0	7.0	7.0	4.6	4.9	5.0/6.2		
Respiration Therapy								
Respiration Therapist	274	291.4	291.8	242	261	264/326	588	
Respiatory Therapist Technician	278.1	289.7	291.5	239	258	260/323	350-451	
Social Services								
Social Worker	846.7	937.5	958.7	782	979	924/1144	1520	
Social Service Aide	86.4	93.4	96.0	88	110	104/129	409-670	
Community Health Aide	68.9	70.4	70.4	42	46	46/59		
Mental Health Worker	196.2	222.7	272.7	91	114	107/133	449	

a. Supply estimate for Nursing Home Administrators includes those available for employment in Health Care and Services Administration.

b. Basic study projections based on the estimate of 1972 total employment of 822 reported in Health Manpower Planning Guide prepared by the Office of Comprehensive Health Planning, State of Connecticut.

c. Supply estimate based on simple trend line of active registration and assumption of 85% participation rate

$$.85\% \text{ where } Y = 19.9 x + 788.5$$

d. Basic study projections based on available information of total numbers employed in this field in 1973 and not just those employed in health related facilities.

e. Basic study projections based on an estimate of 1973 total employment of 18,500.

f. Assumes on 80% of the estimated 29,000 registered nurses with active licenses in 1980 would actually be in the labor force.

g. Basic study projections based on a 1973 total employment estimate of 5800.

h. Supply estimate based on simple trend line of active registrations1 and assumption of 90% participation rate.

$$.9(Y) \text{ where } Y = 416.9 x + 4612$$

i Estimate based on simple trend line of active registrations and assumption of 90% participation rate

$$.9 (Y) \text{ where } Y = 45.35 x + 415.71$$

j. Basic study projection based on an estimated 2105 pharmacists in active practice in 1972 in the state as reported by the National Association of Boards of Pharmacy.

k. In the past four years the number of active licenses need has fluctuated widely due to major change in registration fee changed (from $5 to $100 and then$15). Examination of the registration data, however, indicates that approximately 2400-2500 individuals retained an active Connecticut license even when the fee was the highest. Further, the number of new licenses issued has been fairly stable at the level of 40.50 annually for the last few years. Therefore, the estimate of 1980 supply was based on a 1973 supply of 2450 plus a net addition of approximately 40 per year.

1. Employers' Requirement Projections

Requirements as perceived by employers were computed by three methods to accomodate for incomplete or missing data in individual responses:

a. Projection under assumption that the number of budgeted positions in those employment sites which did not respond to this question would remain at the present level.

b. Projection under assumption that the changes in budgeted positions in the non-respondent sites would change at the same rate as respondents in the same employer category.

c. Projections under assumption that both non-respondent and those who indicated the number of budgeted positions would remain constant would actually experience an employment change of the same rate as respondents in the same employer category who did indicate an employment increase.

2. Basic Requirement Projections

d. Estimated requirements to provide services as currently delivered assuming minimum combined population-income impact.

e. Estimated requirements to provide services as currently delivered assuming the maximum combined population-income impact.

3. National Health Insurance Adjustment

f. The average of the minimum and the maximum basic projections multiplied by the estimated range of demand increasing impact of national health insurance.

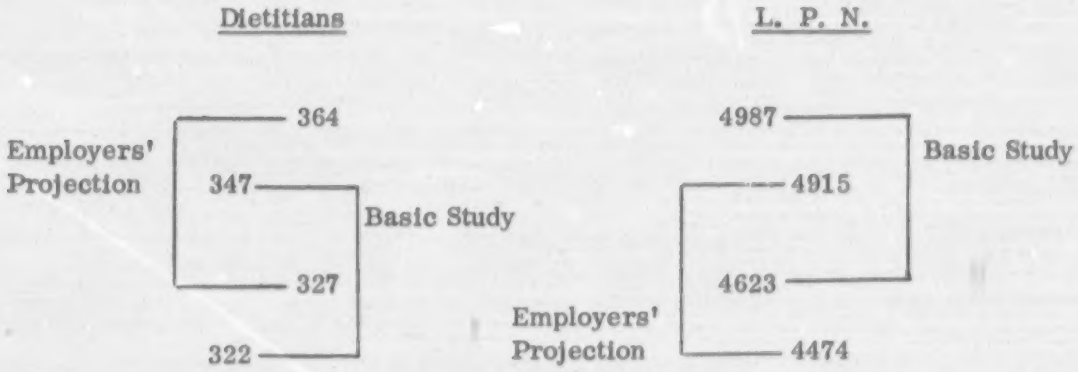
In all cases, the numbers cited are reported in terms of full-time equivalents.

B. Discussion of the Detailed Projections

One specific objective of the total study was the examination of current and projected supply and requirements for specific professions or occupations and to make recommendations about the need for retention of presently offered courses and/or development of alternate courses. This we certainly propose to do. However, it is important to reemphasize two basic caveats. First, the temptation will be great to make quick, overly-simple comparisons between the requirement projections and the supply projections. If done, the resultant decisions might have disastrous effects on the supply of health manpower in the state in future years. These projections, in

our opinion, are based on a valid methodology. However, as repeatedly noted, the base data available was often incomplete or of suspect quality. In addition, many intervening variables and influences are constantly at work which must affect both the need for, and supply of, health manpower. As a result, the Institute does not view or present these projections as absolute predictions. Second, even in those cases where the projections strongly suggest (i.e., a greater than 50 percent difference between projected supply and projected requirement) a surplus situation in a particular field, this does not mean specific local conditions might not indicate the need for a program to be developed. However, in such cases one might reasonably expect an even more rigorous review of the documentation presented prior to approving such a program development or expansion request. It is with these caveats in mind that the following comments are made:

1. The employers' projections and the Basic Study Projections tend to be consistent overall. That is, while the two types of projections do not produce exactly the same levels of requirements, there is considerable overlap of the ranges suggested by the individual projections. Illustrative of this overlap would be the following two examples from the 1980 projections:



2. Perhaps as important, in those cases in which there are significant differences between the two groups of requirement estimates, the deviation is in the expected direction. That is, in "growing" fields the employers' perceived requirements exceed those projected by the basic methodology which assumes a "status quo" organization in the delivery of care. On the other hand, in those areas where subjective evidence collected in other aspects of this study or information from other studies would suggest a "declining" field, the employers' perceived requirements are less than a maintenance of current staffing arrangements would suggest. This consistency of the direction of the difference increases confidence in the overall validity of the projections. It provides also a measure of the rate of change in the adoption of new occupational groups as judged by employers, a group in excellent position to influence that rate.

3. The discussion of the methodology for projecting future supply made it clear that the totals indicated were at best approximations of the potential manpower available. On the other hand, it was equally clear that any bias in the estimates would tend to be in the direction of conservative estimates. That is, only graduates of state programs were added and attrition was considered, but net immigration or reentry of those previously trained was not explicitly considered in most cases. With this downward bias possibility in mind, a comparison of the supply-requirements estimates is quite instructive in terms of suggestive evidence for the guidance of policy decisions related to educational programs. For example:

a. Overall, there is a reasonably close "fit" between what is likely to be required and the supply of trained workers available. This suggests educational institutions and the Commission are doing an adequate job in general of proposing and reviewing new programs and/or the continued need for existing programs.

b. Certain fields, however, already appear to be beyond the saturation point just on the basis of present supply and projected state graduates minus normal attrition. These include such diverse occupations as nurse midwife, cytotechnologist, radiologic technician, occupational therapy assistant, recreation therapist, recreation therapy assistant, respiratory therapist, respiratory therapy technician, social worker, and social service aide. In each of these fields, the projected supply exceeds the most liberal requirement estimate by 50 percent or more. Several other fields--such as health educator and hospital, nursing home, and health care administrator--are probably near or at the saturation point, particularly since these fields are characterized by substantial interstate mobility of trained workers. However, insufficient quantitative data is available to allow more than that qualitative assessment.

c. Other fields would appear presently to be experiencing, or heading toward, a manpower shortage. These include nursing aides, dietitians, psychiatric aides, medical transcriptionists, special education teachers, clinical psychologists, and nuclear medical technologists.

d. Still other occupational fields may or may not experience a shortage situation in the next few years, but the evidence is less clear or the field is too new to allow adequate judgments about the rate of adoption of (and subsequent demand for) these workers. In this category one might include such occupations as nurse practitioners and physician assistants. At the moment, however, these fields appear to be supplied adequately and/or have sufficient people in training to insure either sufficient or surplus numbers to meet expected needs.

e. A number of occupational fields exist in which the absence of data absolutely precludes definitive statements. These include: biomedical equipment technician, biological photographer, medical illustrator, and

community health aide. However, the relatively small number of employment opportunities for these fields cited in the employer surveys does indicate little total need for programs in these areas.

f. In one specific occupation, Registered Nurses, it is possible to compare the results of the present analysis with conclusions from other studies. For example, a previous study[14] of nursing manpower needs in Connecticut, following a review of all available studies, concluded that the total needs would approximate 18,500-21,000 employed Registered Nurses in 1975 and between 19,000-23,500 in 1980. That study also suggested that to insure a sufficient size labor pool, given existing labor force participation rates, would require an active registered list approximately 20 percent larger than these totals. Examination of those factors which would determine the supply of active registrants--current supply, attrition, migration, and graduates--strongly suggested a 1975 supply of 24,000 to 25,000 and a 1980 supply of 28,000 to 29,000. Assuming that only 80 percent of the active registrants would actually be in the labor force at any given time, the study concluded that (a) the available supply might not meet the projected 1975 need, but that (b) by 1980 the projected supply would approximate and might even exceed the needs. Finally, the study suggested that, in any case, a very modest increase in graduations (25-50) annually maintained over a five year period would produce a total labor supply more than adequate to meet nursing manpower requirements in the state. Consequently, the study recommended that attention shift away from an emphasis on more nursing programs (and graduates) to an emphasis on the proper instructional locus. These conclusions were partially supported by an independently produced report of the Connecticut Labor Department.[15] That agency projected <u>total</u> annual openings for registered nurses between 1974 and 1978 of approximately 1500. Corrected for net immigration, this estimate closely approximated the need calculations underlying the conclusions reported above.

The present study has uncovered no evidence to suggest a need to revise these conclusions. In fact, if anything, the present study's results suggest even more strongly that the need now is to move away from the emphasis on programs <u>per se</u> to an emphasis on development of those programs which further specific educational or professional goals (i.e., to shift the proportion of nursing students receiving a specific level of educational preparation).

C. <u>Recommendations</u>

As noted in the previous section, the temptation will be great to make quick comparisons of projected supply and requirements and then to recommend no new programs and/or termination of existing programs in specific geographic or occupational areas. For those reasons noted, this would be the ;wrong way to proceed. On the other hand, it would be equally invalid to dismiss casually the warning signs suggested by

this analysis or to fail to follow-up on the initial work presented here. Moreover, this Projection section, and all the other sections of the study, indicates in some detail those things necessary to improve the basic data utilized in the methodology employed or to develop more effectively a coordinated decision making process. These steps or actions have been presented in the action recommendations presented in the Overview and need not be repeated here.

Footnotes

[1]Medical Care Prices and Health Manpower in New Jersey, Bureau of Economic Research, Rutgers, The State University of New Jersey, 1969.

[2]New Jersey State Department of Health, Health Manpower in New Jersey: Report of the Health Manpower Data Project, December 1971.

[3]National Institutes of Health, Bureau of Health Manpower Education, Division of Manpower Intelligence, Transcript of the Impact Studies Conference, Annapolis, Maryland, December 6-7, 1972.

[4]See, for example, Paul B. Ginsburg and Larry M. Manheim, "The Effect of Coinsurance and Deductibles on Health Services Utilization and Expenditure: A Survey," Economic Analysis Branch, NCHSRD; Charles E. Phelps and Joseph P. Newhouse, Coinsurance and the Demand for Medical Services, Santa Monica: The Rand Corporation, 1972, Report R-964-OEO/NC; and, Joseph P. Newhouse and Charles E. Phelps, On Having Your Cake and Eating it Too: A Review of the Estimated Effects of Insurance on the Demand for Medical Care, Santa Monica: The Rand Corporation, 1973, Report R-1149-NC.

[5]Robert R. Nathan Associates, Inc., Assessment and Evaluation of the Impact of Alternative National Health Insurance Plans on U. S. Health Manpower Requirements, presented at the Division of Manpower Intelligence sponsored Impacts Studies Conference, Bethesda, Maryland, December 6-7, 1972. As a result of this presentation and the subsequent conference critique, a substantial revised report was prepared in May 1973. See, Lien-fu Hueng and E. W. Shomo, Assessment and Evaluation of the Impact of Archetypal National Health Insurance Plans on U. S. Health Manpower Requirements.

This study prepared for DMI by Robert A. Nathan Associates is one of the baseline studies commissioned by DMI as part of its overall effort to examine future health manpower supply and requirements and the possible impact of significant change in the health care system. As such the results of the R. A. Nathan Associates study are not official estimates of DMI nor do they necessarily represent even accepted estimates which DMI will incorporate into its final forecasts.

[6]"Current Estimates from the Health Interview Survey, United States--1971," U. S. Department of Health, Education, and Welfare, Health Services and Mental Health Administration, Series 10, Number 79.

[7]United States Water Resources Council, 1972 OBERS Projections: Economic Activity in the United States, Vol. V: States, U. S. Government Printing Office, 1973.

[8]The American Medical Association, Report of the Commission on the Cost of Medical Care, Vol. 1: General Report, see especially, Chapter 4, "The Demand for Medical Care," Chicago: 1964.

[9]For a general review of the major empirical studies on the effect of income on the demand for health care, see Hyman, Joseph, "Empirical Research on the Demand for Health Care," Inquiry, 8:61-71, March 1971. Also see the remarks of John Holahan, U. E. Reinhardt, and Charles Phelps at the December 1972 Impacts Studies Conference conducted by the Division of Manpower Intelligence, op. cit.

[10]Huang and Shomo, op. cit.

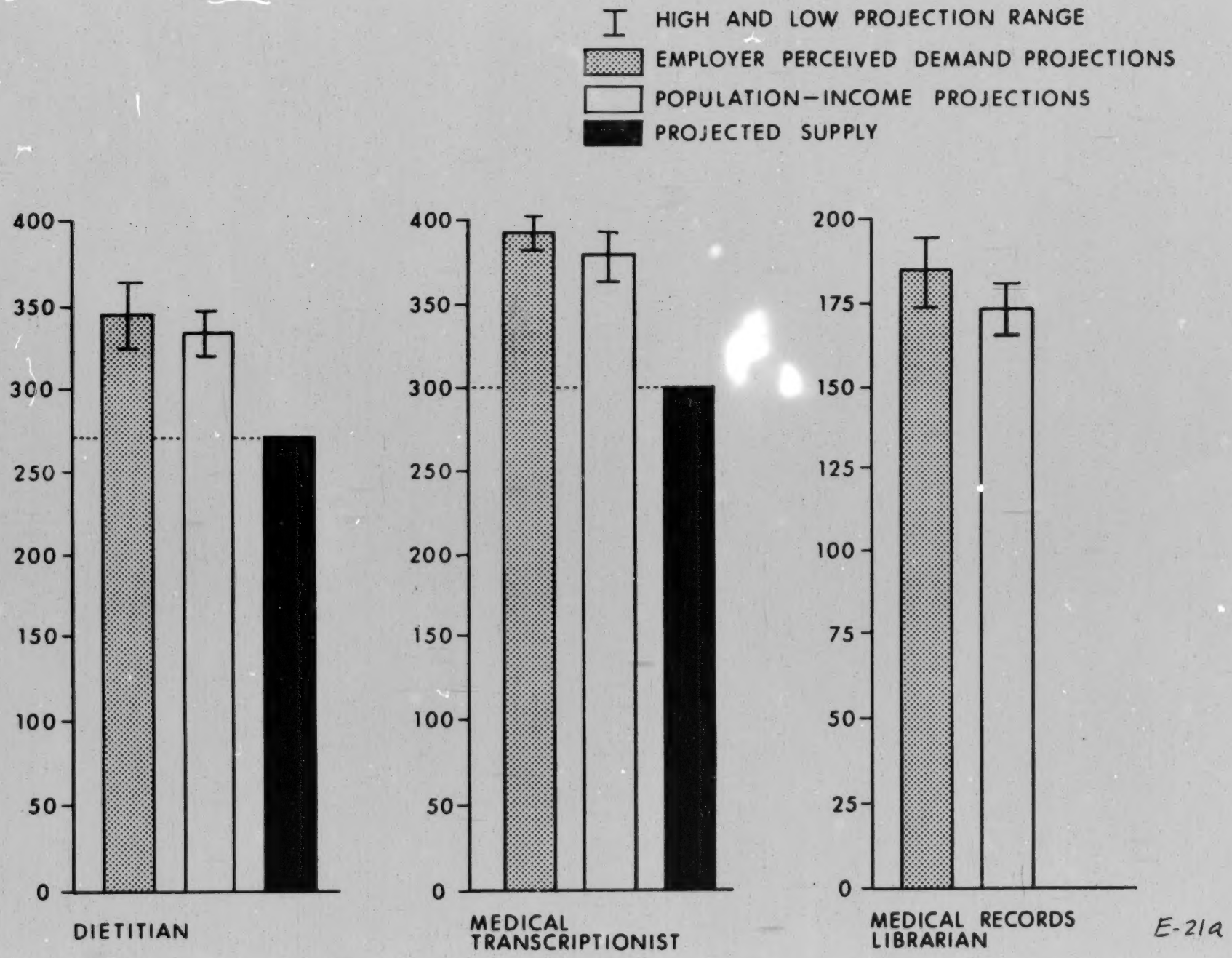
[11]No brief summary could hope to review adequately the scope of this study. The interested reader, therefore, should read the total study, particularly Chapter III, IV, V, and VI for a better understanding of the projection model, its underlying assumptions, the estimations, and resultant biases.

[12]U. S. Department of Labor, Bureau of Labor Statistics, Tomorrow's Manpower Needs, "Volume 1: Developing Area Manpower Projections," Bulletin No. 1606, February 1969, pp. 47-55.

[13]Hansen, W. Lee, "An Appraisal of Physician Manpower Projections," Inquiry, 7:102-112, March 1970.

[14]Glasgow, John M., Registered Nurse Supply and Demand: National Reports and Connecticut Projections, 1972 Planning Document prepared in the Office of the Vice President for Health Affairs, University of Connecticut Health Center.

[15]Connecticut Labor Department, Employment Security Division, Research and Information, "Estimated Employment and Projected Openings, Selected Occupations, Fiscal Years 1973-1978," mimeo., April 1972.


HIGH AND LOW PROJECTION RANGE
EMPLOYER PERCEIVED DEMAND PROJECTIONS
POPULATION–INCOME PROJECTIONS
PROJECTED SUPPLY
400
350
300
250
200
150
100
50
0
DIETITIAN
400
350
300
250
200
150
100
50
0
MEDICAL TRANSCRIPTIONIST
200
175
150
125
100
75
50
25
0
MEDICAL RECORDS LIBRARIAN

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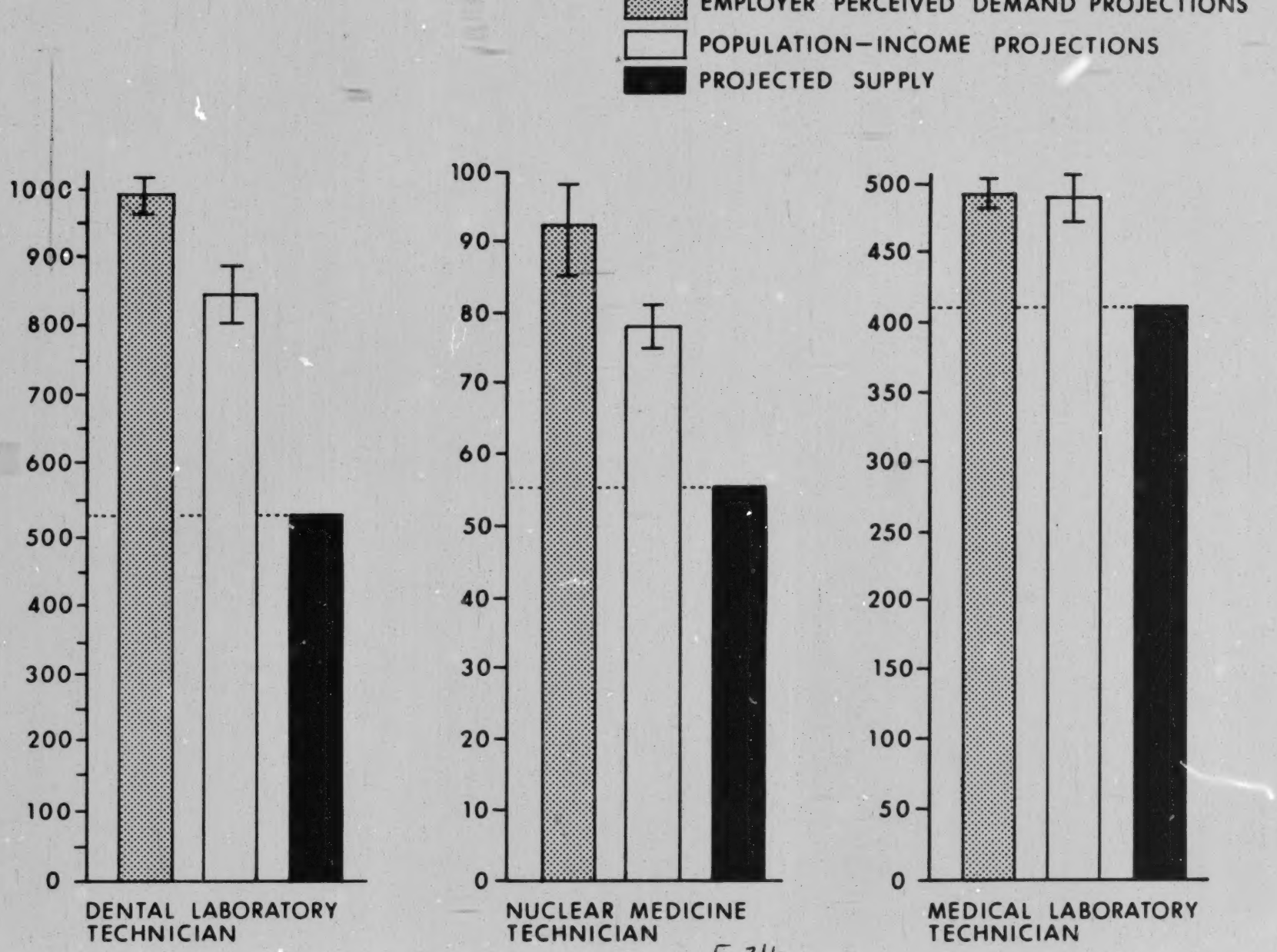
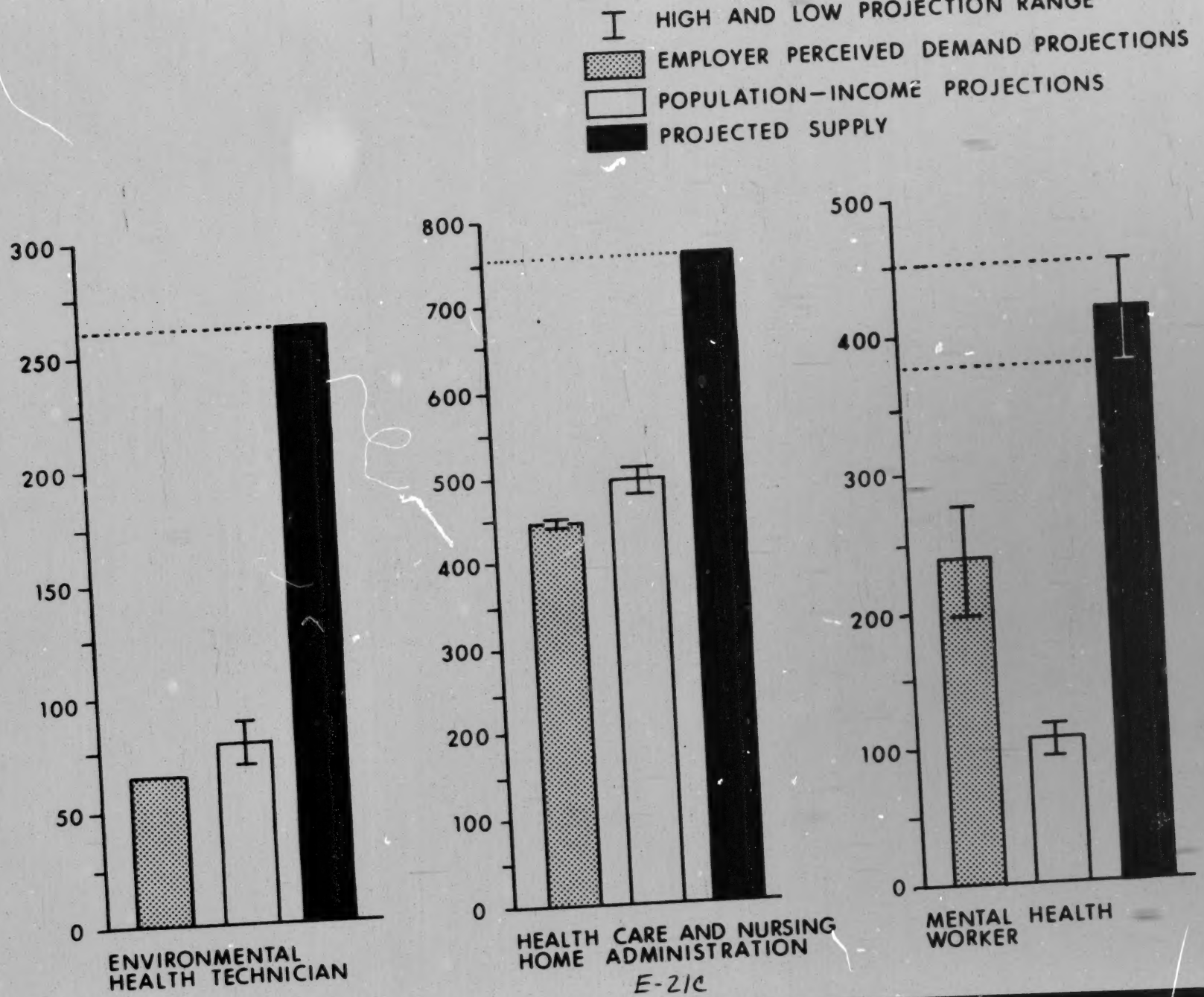

EMPLOYER PERCEIVED DEMAND PROJECTIONS
POPULATION–INCOME PROJECTIONS
PROJECTED SUPPLY
1000
900
800
700
600
500
400
300
200
100
0
DENTAL LABORATORY TECHNICIAN
100
90
80
70
60
50
40
30
20
10
0
NUCLEAR MEDICINE TECHNICIAN
500
450
400
350
300
250
200
150
100
50
0
MEDICAL LABORATORY TECHNICIAN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POPULATION–INCOME PROJECTIONS
PROJECTED SUPPLY
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250
200
150
100
50
0
ENVIRONMENTAL HEALTH TECHNICIAN
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700
600
500
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HEALTH CARE AND NURSING HOME ADMINISTRATION
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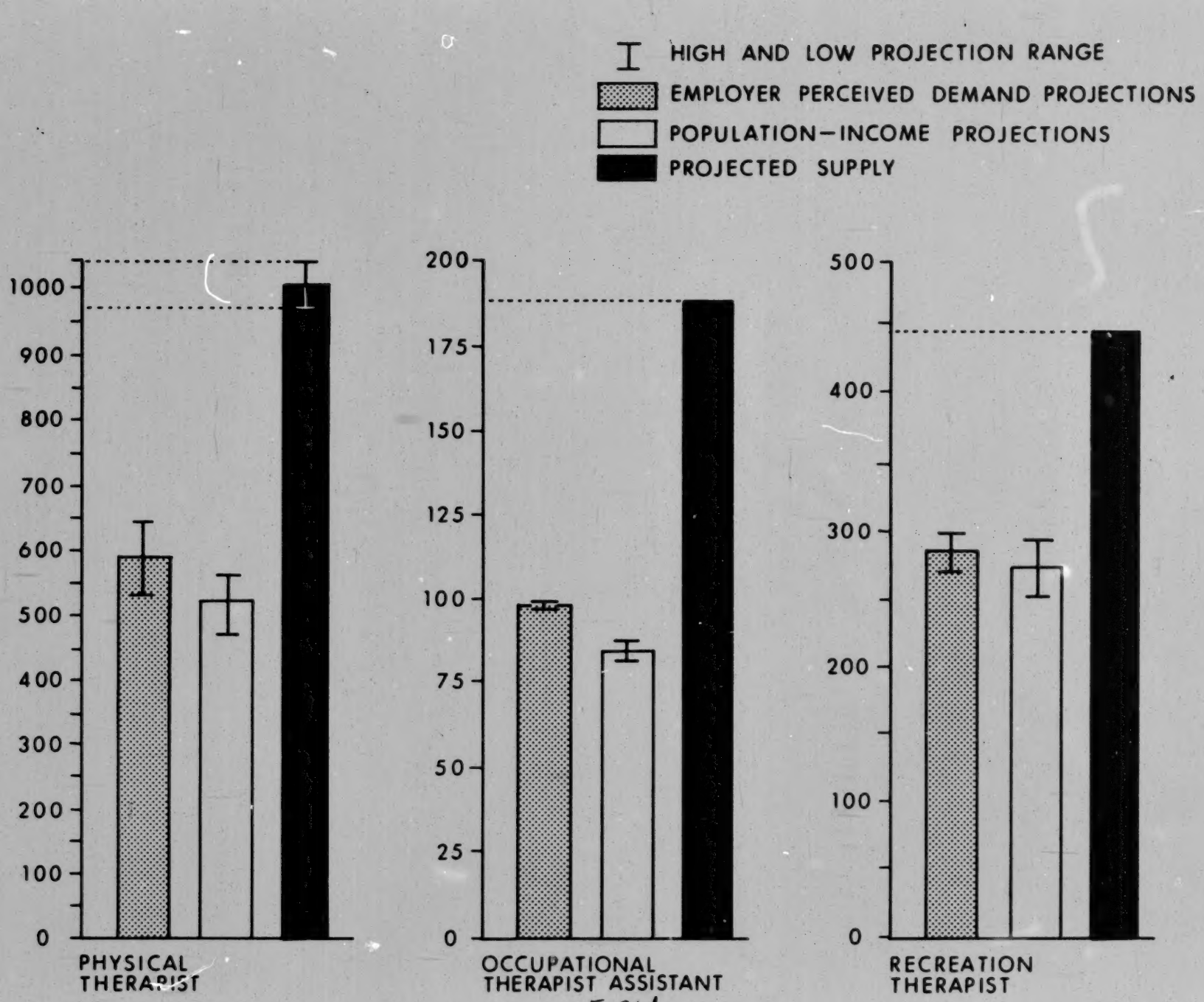
400
300
200
100
0
MENTAL HEALTH WORKER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POPULATION–INCOME PROJECTIONS
PROJECTED SUPPLY
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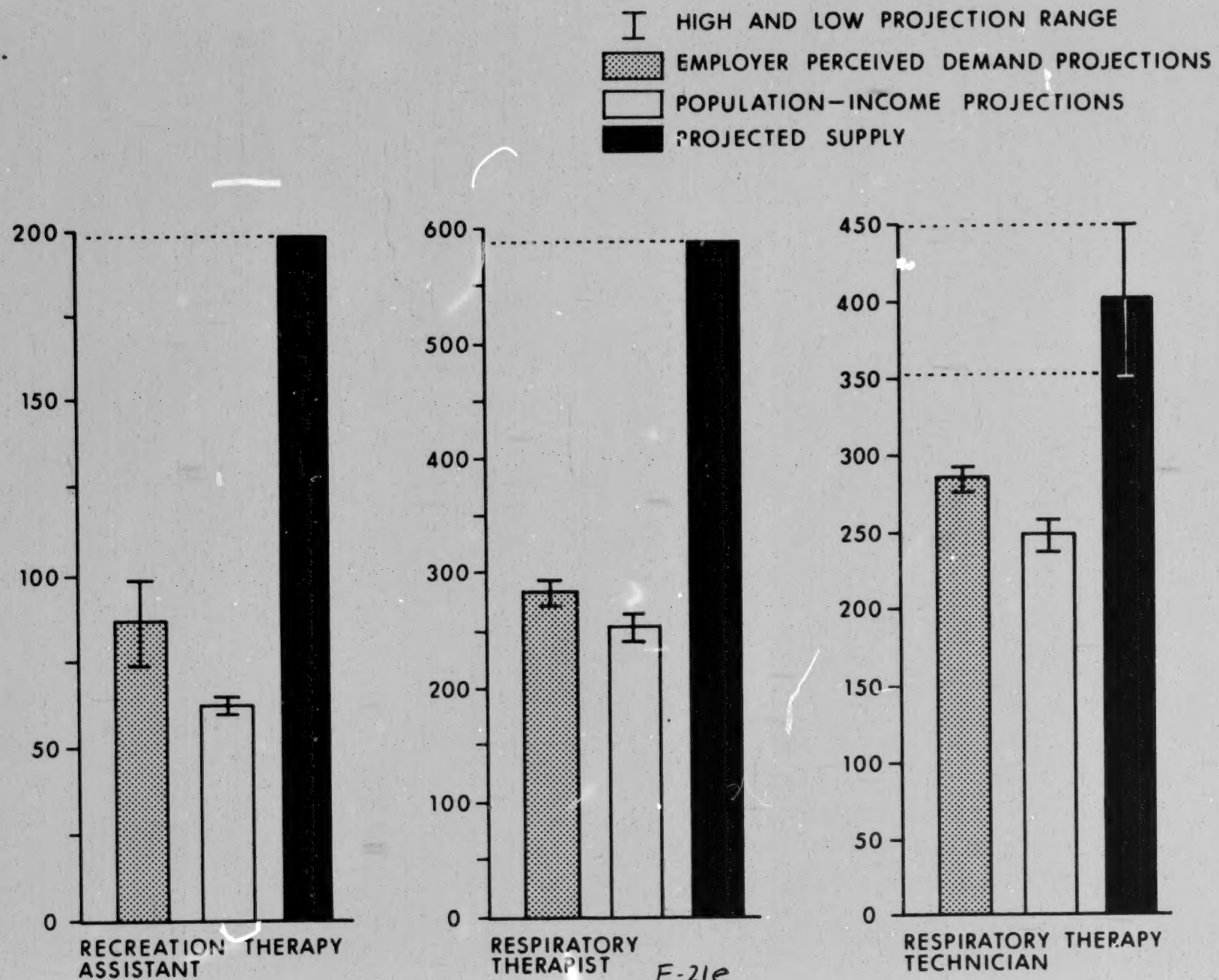
900
800
700
600
500
400
300
200
100
0
PHYSICAL THERAPIST
200
175
150
125
100
75
50
25
0
OCCUPATIONAL THERAPIST ASSISTANT
500
400
300
200
100
0
RECREATION THERAPIST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EMPLOYER PERCEIVED DEMAND PROJECTIONS
POPULATION–INCOME PROJECTIONS
PROJECTED SUPPLY
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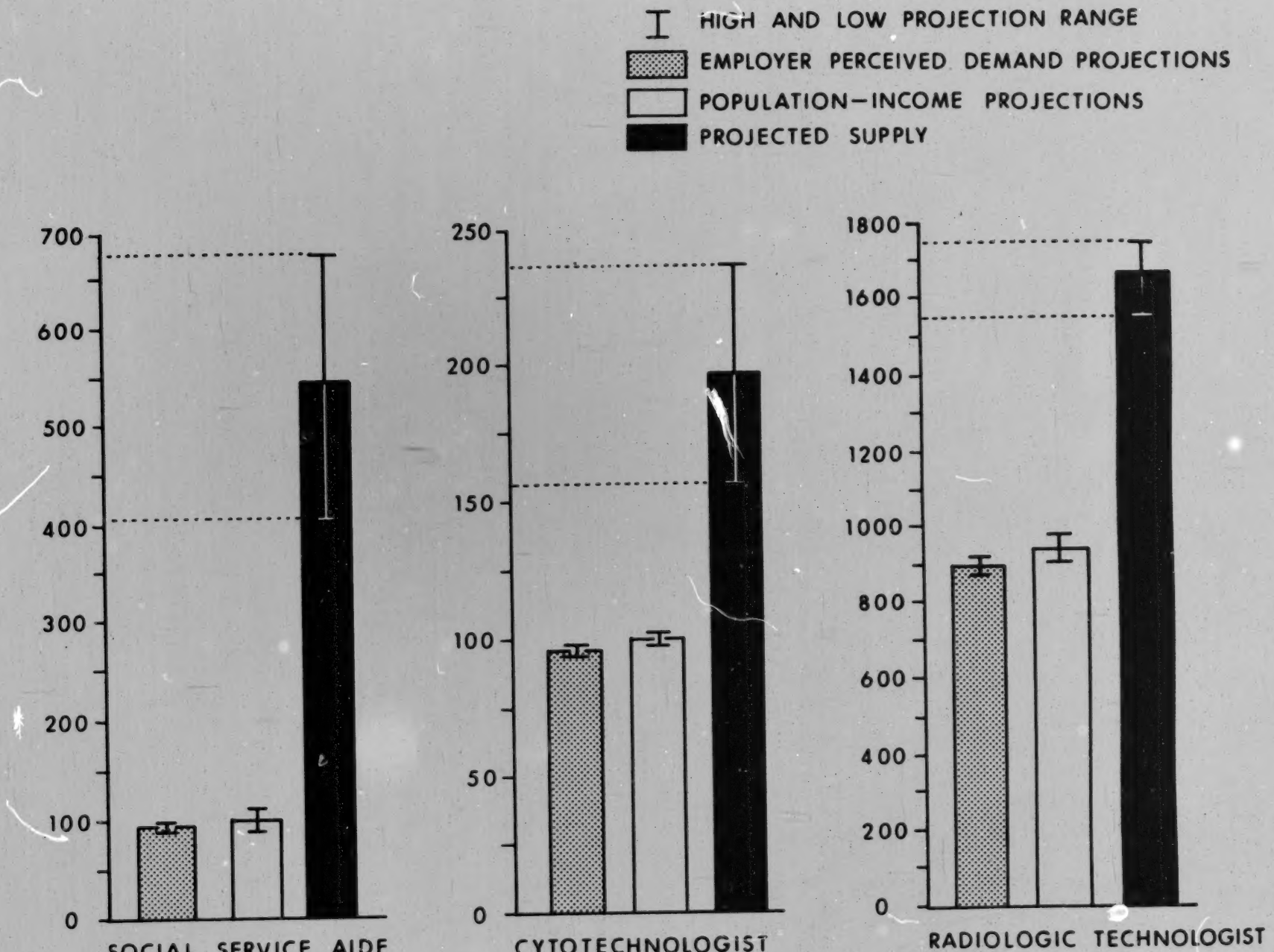
150
100
50
0
RECREATION THERAPY ASSISTANT
600
500
400
300
200
100
0
RESPIRATORY THERAPIST
450
400
350
300
250
200
150
100
50
0
RESPIRATORY THERAPY TECHNICIAN


HIGH AND LOW PROJECTION RANGE
EMPLOYER PERCEIVED DEMAND PROJECTIONS
POPULATION–INCOME PROJECTIONS
PROJECTED SUPPLY
700
600
500
400
300
200
100
0
SOCIAL SERVICE AIDE
250
200
150
100
50
0
CYTOTECHNOLOGIST
1800
1600
1400
1200
1000
800
600
400
200
0
RADIOLOGIC TECHNOLOGIST

Section F. HEALTH MANPOWER IN CONNECTICUT STATE AGENCIES

A Mini Survey of Education & Employment

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RE: MINI SURVEY OF CONNECTICUT STATE AGENCIES

A mini survey of state agencies as part of the health education/employer study conducted for the Commission on Higher Education was undertaken to determine the extent to which the State is in the "health business" as an employer and as an educator/trainer of health personnel.

We have sought to do this by following methodology:

1. Collecting general information of the health services of the represented agencies. (We include samples of such services.)

2. Approximating type and number (where statistics are available) of health-related personnel working in central offices of such agencies and by occupations reported to CIHMR survey.

3. Describing examples of training/educational programs servicing health personnel.

4. Indicating key trends that run through these departments.

Data collected from nine State agencies reflect occupations offering direct or indirect health services to the people of the State. We have identified approximately 60 health occupations utilized by these agencies employing 8,264 estimated full-time and 325 part-time personnel.

This mini-survey raises questions for further examination:

State agencies as the employer:
Can they compete with private sector re:

-Salaries?
-Opportunities for recognition and advancement?
-Personal satisfaction?
-Security?

Can the State Job Classification System be sufficiently flexible to:

-Reflect changing functions of traditional occupations?
-Incorporate the new health occupations?

Would the coordination of health personnel, educational programs, and State employment be better served by the establishment of a centralized health information data bank?

State agencies offering education/training programs:

-Should these programs be undertaken with the formal educational institutions so that the recipient may be awarded academic credit if appropriate?
-Will this allow for career mobility?
-How can the educational system answer the need for continuing education?
-Is their present system of education/training advantageous to the State?

Acknowledgments

We wish to express our thanks to the members of the State Personnel Department and in particular, to Commissioner Edward H. Simpson and Mr. Andrew E. Franko, who were extremely helpful. They served as a tireless source for information in response to innumerable inquiries. We also wish to express our gratitude to persons in the following Departments: Children and Youth Services, Labor, Consumer Protection, Mental Health, Corrections, Education, Health, Environmental Protection, and Agriculture.

Some characteristics of State Agencies re: Health Occupations.

1. Hiring Practices

-by competitive examination

-by selection of personnel from top three scores on list;

-"in lieu of" system. When a job candidate does not possess all formalized entry requirements, recognition for work experience of specific length can serve, for promotion of entry level qualification, "in lieu of" higher levels of training. Although starting salary scale levels will be lower, opportunities to eventually reach higher levels are available after prescribed work experience periods;

-Non-uniformity of education requirements. Job candidates possessing a B.S. degree with majors in science which cover a spectrum of various disciplines are job eligible. Concentration in the specific scientific discipline is accomplished by on-the-job training.

2. Training in State Agencies

-in-service;

-in cooperation with educational institutions, e.g., vocational-technical schools, community colleges, other colleges and universities.

-a 50% tuition reimbursement program for job-related training for personnel when such training is not available through its in-service facilities.

3. Some Problems Related to Hiring and Training Procedure

-Calendar for examinations: New applicants for jobs must await scheduling of examinations. Candidates may consider employment in private sector first choice rather than to await examination for job opportunity in State system;

-salary scale: When not competitive with private sector, supply of personnel (for State employment) is affected. (Department of Mental Health reports that they were able to fill 60% of their newly budgeted positions for staff nurses only after state salary scale was changed to meet salary scale of private sector.)

-Budgeted positions: In private sector as well as state agencies "demand" for personnel reflects a combination of need for service and employer ability to pay. For state agencies, budgetary expenditure is determined by legislative policy. Positions considered as "needed" by the agency offering the service must await budgetary decision of the legislature. (Most recent newly budgeted positions are for Department of Mental Health and Office of Mental Retardation.)

4. Emerging Occupations

-Changing concepts of health care in state agencies provide opportunities for occupations involving the environment, OSHA, mental retardation, community care services in mental health, corrections, children & youth services.

STATE AGENCY: DEPARTMENT OF AGRICULTURE

DIVISION(S): Dairy Division, Livestock Division, Marketing Division, Aquaculture Division.

SERVICES:

-Provides examining board for candidates for Veterinarian licensure.

-Licenses for Veterinarians.

-Provides disease control and disease identification for sheep and hogs. (Tuberculosis, typhoid, cholera, rabies.)

-Inspects garbage cookers used for hog feed.

-Provides dairy inspection and sampling of milk for bacteria.

-Provides barn inspection for sanitary conditions.

-Provides plant inspection for processing of dairy products.

-Checks for egg freshness and quality.

-Provides marketing promotion for Connecticut agricultural products.

-Surveys shellfish beds for adherence to laws concerning pollution.

-Provides canine control.

HEALTH OCCUPATION CATEGORY EMPLOYED:

Veterinarians
Sanitary Inspectors
Food Inspectors
Environmental Health Technologists

COMMENTS: Department of Agriculture is an agency involved with prevention of disease in animals and agricultural areas, as a safeguard to human populations.

STATE AGENCY: DEPARTMENT OF CHILDREN AND YOUTH SERVICES

DIVISION(S): Community Services; Institutions and Facilities; Evaluation and Placement

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SERVICES:

-Provides programs for children and youth with deviant behavioral problems (by community and legal standards.)

-Provides comprehensive programs for deliquency prevention, diagnosis treatment and rehabilitation.

-Long Lane School, Middletown; Hartford Community Service Unit, 15 Group Homes statewide.

HEALTH OCCUPATIONS CATEGORY EMPLOYED:

-Social Worker, MSW: 4 full-time, 0 part-time, 1 vacancy

-Clinical Psychologist: 0 full-time, 0 part-time, 1 vacancy

TRAINING:

-Provides Drug Education for staff of local high school; provides Intern Program for social workers; HECUS (Higher Education Community Urban Studies.)

COMMENTS:

-Under consideration are plans to include children's services presently handled by other State Departments.

-Agency stresses rehabilitation in community based settings instead of incarceration in large institutions.

-Feel a strong link could be developed between department and institutions of higher education for community orientation, clinical training and research.

-Need for job opportunities for entry level candidates where emphasis will be on performance rather than academic requirements.

-Attrition rate for personnel in this department is high (80%.) Personnel use job opportunities for entry into professions. Personnel includes rehabilitated offenders.

STATE AGENCY: DEPARTMENT OF CONSUMER PROTECTION

DIVISION(S): Commission of Pharmacy; Meat and Poultry; Food; Drug Control

SERVICES:	- Licenses pharmacies and pharmacists for the State. - Monitors drug quality, state distribution, and personnel involved in handling drugs. - With the Department of Health, audits and interprets drug-related laws and the State drug-distribution system. - Monitors at the farm, processing or consumer level, the quality and freshness of foods.
HEALTH OCCUPATIONS CATEGORY EMPLOYED:	- Food (meat and poultry investigators): 63 full-time - Drug Investigators: 4 full-time - Pharmacist: 12 full-time, 0 part-time
TRAINING:	- One year apprentice/internship for pharmacists is supervised by the Pharmacy Commission for licensure.
COMMENTS:	- As a result of the Etherington Report, drug control division (formerly narcotic) was moved from the Health Department to the Department of Consumer Protection.

STATE AGENCY: DEPARTMENT OF CORRECTIONS

SERVICES:
- Rehabilitation of inmates for return to the community.
- Provides direct health care for inmate population.

GEOGRAPHIC AREAS SERVICED:
- Long-term incarceration: Niantic*, Somers*
- Short-term incarceration: Bridgeport*, Brooklyn*, Cheshire, Enfield, Haddam, Hartford*, Litchfield, New Haven*, New London*, Portland

*Health personnel in their employ.

HEALTH OCCUPATION CATEGORIES EMPLOYED:
- Two major health employees: Correctional Nurses, I and II, 19 Full-time, 0 part-time, 1 vacancy
  Correctional Attendants, 28 Full-time, 0 part-time, 3 vacancies
- Other Health employees: Medical Technologist, 1 Full-time, 0 part-time, 0 vacancies
  Physical Therapist, 1 Full-time, 0 part-time, 0 vacancies
  Pharmacist, 1 Full-time, 0 part-time, 0 vacancies
  Hospital Clinical Director, 1 Full-time, 0 part-time, 0 vacancies
  (Vocational Counselors from other State agencies assist job procurement upon release.)

COMMENTS:
- Observation: The majority of the inmate population are males. The Correctional Department has expressed difficulty in hiring female Correctional Nurses for these institutions. If present Correctional Attendants could further their education and obtain Registered Nurse Certification, it might solve hiring problems in this area.
- There is a general movement in corrections away from incarceration of inmates to one of rehabilitation, i.e. "Halfway Houses." The agency anticipates the addition of recreation and occupational therapist to its personnel requirements.

STATE AGENCY: DEPARTMENT OF EDUCATION

DIVISION(S): Division of Instructional Services - Bureau of Pupil Personnel and Special Education
Bureau of Elementary and Secondary Education
Division of Vocational Education - Bureau of Vocational Services
Vocational-Technical Schools
Division of Vocational Rehabilitation

SERVICES:

- Provides education for the handicapped.
- Provides health education.
- With the Department of Health, provides direct health services to Connecticut's public school population.
- Trains health professionals.
- Provides education and rehabilitation of handicapped adults (above age 14).

HEALTH OCCUPATION CATEGORY EMPLOYED:

Division of Instructional Services

- School health services: State employs over 400 nurses to meet health needs of students in public schools. Dental hygienists service public school children in cooperation with Department of Health.
- Health Educators: For 76 out of 185 local school districts, there are 109.3 full-time position equivalents allocated to Health Education in Connecticut Public Schools. These positions are distributed in the public school systems as follows:

Elementary Schools	17 FTE
Middle Schools	19.5 FTE
Senior High Schools	72.8 FTE

109 local school districts report no staff with partial or full-time assignments. According to statistics furnished by this Department, ratio of enrollments to full-time health educators position equivalents are 380 students to one health educator. The Health Educator provides a dual role in fields of education and health and functions in the area of prevention. Health education curriculum from K-12, according to a 1971-2 study report, HEALTH EDUCATION IN CONNECTICUT PUBLIC SCHOOLS, covers subject matter concerning alcohol, controlled drugs, tobacco, mental health, family and home relationships, safety and accident prevention.

STATE AGENCY: DEPARTMENT OF EDUCATION (Cont'd)

DIVISION(S): Division of Instructional Services - Bureau of Pupil Personnel and Special Education (Cont'd)
Bureau of Elementary and Secondary Education (Cont'd)
Division of Vocational Education - Bureau of Vocational Services (Cont'd)
Vocational-Technical Schools (Cont'd)
Division of Vocational Rehabilitation (Cont'd)

HEALTH OCCUPATIONS CATEGORY EMPLOYED (Cont'd):

- Special Education:
In 1971, 28% of the staff was utilized in serving educable and trainable mentally retarded; 25% served the neurologically impaired and learning disabled; 18% the socially and emotionally maladjusted; 2% the gifted and partially sighted.

The following is the number of full-time equivalent instructional and supportive ancillary special educational staff in Connecticut's public schools for the school year 1973-74 as furnished by the Bureau of Pupil Personnel and Special Education.

Instructional Staff (FTE) Pre-School	Total
Professional	49.9
Aide	36.3
Supervisor	8.5

Non-Instructional Staff (FTE) Pre-School	
Counselor	3.6
Psychiatrist	--
Psychologist	4.1
Psychological Examiner	5.2
School Social Worker	10.2
Nurse, Nurse-Teacher	1.5
Physician	---
Speech & Hearing Clinician	9.2
Aide	2.2
Supervisor	3.0

Instructional Staff (FTE) School Age	Total
Professional	1857.6
Aide	450.9
Supervisor	74.2

Non-Instructional Staff (FTE) School Age	
Counselor	167.1
Psychiatrist	---
Psychologist	127.0
Psychological Examiner	126.5
School Social Worker	276.1
Nurse, Nurse-Teacher	105.9
Physician	----
Speech & Hearing Clinician	306.6
Aide	57.2
Supervisor	74.3

STATE AGENCY: DEPARTMENT OF EDUCATION (Cont'd)

DIVISION(S): Division of Instructional Services - Bureau of Pupil Personnel and Special Education (Cont'd)
Bureau of Elementary and Secondary Education (Cont'd)
Division of Vocational Education - Bureau of Vocational Services (Cont'd)
Vocational-Technical Schools (Cont'd)
Division of Vocational Rehabilitation (Cont'd)

TRAINING: Division of Vocational Education

Bureau of Vocational Services

- Nurse Aide Program: 39 high schools--860 students (851 female) completed program in June, 1973.
  5 high schools have added Nurse Aide programs.
- Animal Technician: 3 high schools--69 students (32 female) completed program in June, 1973.
- Laboratory Technician: 3 high schools--141 students (116 female) completed program in June, 1973.
- X-Ray Program: 1 high school--14 students (9 female) completed program in June, 1973.
- Allied Health Occupations: 1 high school--19 students completed program in June, 1973
  1 high school has added AHO Program.

Vocational Technical Schools:

Enrollment as of November 1973 for twelve schools:

Dental Assistant:	79 students
Dental Laboratory Assistants:	18 students
Health Services Occupations:	51 students
Licensed Practical Nurse:	775 (300 will graduate February 1974)

Division of Vocational Rehabilitation

- Vocational Rehabilitation Counselors: Provide rehabilitative services to educate/train the handicapped adolescent and adult for eligibility for employment. 135 Vocational Rehabilitation Counselors (67 female) are employed in the central office of this division. All ancillary services for specific rehabilitation therapy are contracted and paid for by this division; e.g., physical therapy, occupational therapy, psychiatric therapy, educational tuition fees, job training, etc. Education in Connecticut's public secondary and post-secondary schools for career training are arranged through this division. Primary aim is to provide each candidate with mechanisms to enter or reenter labor market on competitive basis.

STATE AGENCY: DEPARTMENT OF EDUCATION (Cont'd)

DIVISION(S): Division of Instructional Services - Bureau of Pupil Personnel and Special Education (Cont'd)
Bureau of Elementary and Secondary Education (Cont'd)
Division of Vocational Education - Bureau of Vocational Services (Cont'd)
Vocational-Technical Schools (Cont'd)
Division of Vocational Rehabilitation (Cont'd)

COMMENTS: - A study evaluating the quality of Special Education programs in the State is under consideration by the Joint Education Committee of the State General Assembly. The results might have implication for numbers and kinds of health personnel.

STATE AGENCY: DEPARTMENT OF ENVIRONMENTAL PROTECTION (DEP)

DIVISION(S): Environmental Quality; Preservation & Conservation

SERVICES:

- Preserves and conserves Connecticut's natural resources and environment. Although not an area directly involved with health occupations, the Department of Environmental Protection provides a preventative health service.*
- Since the creation of the DEP, a number of legislative actions were initiated concerning air and water pollution, detergents and pesticides, radiological health protection, solid waste, transportation, etc.

HEALTH OCCUPATIONS CATEGORY EMPLOYED:

- Although the Connecticut Department of Environmental Protection does not utilize the health professionals we are specifically examining, in the study for the Commission for Higher Education, the following List of Health Occupations, provided by Health Resources Statistics, published by the U.S. Department of Health, Education and Welfare, Public Health Service, Rockville, Maryland, covers the many aspects of utilizing personnel for environmental problems which contribute to the concepts of preventive health care.

ENVIRONMENTAL CONTROL:

Environmental scientist	Sanitary sciences specialist Air pollution meteorologist Environmental control chemist Estuarine oceanographer Ground water hydrologist Health physicist Limnologist
Environmental engineer	Sanitary engineer Air pollution engineer Hospital engineer Industrial hygiene engineer Public health engineer Radiological health engineer
Environmental technologist	Sanitarian Air pollution specialist Industrial hygienist Radiological health specialist
Environmental technician	Sanitarian technician Environmental engineering technician Radiological health technician (monitor)
Environmental Aide	Sanitarian aide Environmental engineering aide Sewage plant assistant Waterworks assistant

*Environmental health is defined as the study, art and technique of applying scientific knowledge for the improvement

STATE AGENCY: DEPARTMENT OF ENVIRONMENTAL PROTECTION (DEP) (Cont'd)
DIVISION(S): Environmental Quality; Preservation & Conservation (Cont'd)

TRAINING:

- Training for personnel involved with environmental problems offers a wide spectrum:
  - on-the-job training;
  - programs at the vocational/technical schools providing education (with no credit or certification) for special community and industrial needs;
  - two-year programs at community colleges and State technical colleges;
  - four-year programs at private colleges;
  - a graduate program (at Yale) in epidemiology;
  - a Continuing Education Program for Safety Engineers (at Rensselaer Polytechnic Institute of Connecticut).

- There has been little coordination educationally with the needs for personnel for this Department. To clarify requirements for careers in Environmental Technology, there is a need for communication with school counselors. It is the judgment of the Department that a variety of disciplines must be considered, e.g., a concentration in physical sciences, chemistry, biological sciences, and in legal training.

COMMENTS:

- Environmental control is covered by several departments of state government: Department of Agriculture; Division of Environmental Health in the Department of Health; Food, Drugs Control Divisions of the Department of Consumer Protection; Division of Occupational Safety in the Department of Labor; and the Environmental Quality Division which concerns itself with water, air, radiation control, pesticide control and solid waste materials within the Department of Environmental Protection. ---- A study sponsored by the Connecticut Business & Industry Association is currently under way for Vocational Training and Development in Environmental Studies and Careers.

STATE AGENCY: DEPARTMENT OF LABOR

DIVISION(S): Apprentice Training, Occupational Health & Safety Division (to be formalized), Connecticut State Employment Service, Office of Research and Information.

SERVICES:

-Apprentice Training Division - provides education/training programs in health occupations approved by the Connecticut State Apprenticeship Council.

-Occupational Health & Safety Division (to be formalized) - functions in the area of preventive health. Formerly housed in the Department of Health, it will be incorporated into the Labor Department's Factory Inspection Division, heretofore responsible for factory safety. The Occupational Health Section's responsibility concerned itself with the environment of the work setting and its effect upon the health of the employee. Together, they will form the OCCUPATIONAL SAFETY AND HEALTH DIVISION under the Connecticut Department of Labor to meet the criteria of the federal government in accordance with the U.S. Occupational Safety and Health Act of 1970 and as authorized by Connecticut Public Act No. 73-379 of May 30, 1973. (Occupational Safety and Health Act for Connecticut.) OSHA Plan for Connecticut as required by federal law has been submitted to federal authorities and approved. Requirements for State OSHA Plan include passage of state stature to authorize OSHA (Public Act No. 73-379.) New requirements for additional staffing and training will be implemented to fulfill federal criteria. Period of three years is allowed for total implementation of plan. This division functions as inspectors and evaluators of the health and safety environment of industrial facilities. For compliance with OSHA, the enforcement program will include citations for non-compliance and the levying of fines.

-This division serves as a source for information on toxicity of materials.

-Physicians are required to report to this agency any cases diagnosed as related to Occupational Disease origin.

-Connecticut State Employment Service - Provides job placement opportunities for employees and employers through a computer managed Job Bank.

STATE AGENCY: DEPARTMENT OF LABOR

HEALTH OCCUPATION CATEGORY EMPLOYED:

-Physician, 1 full-time, 0 part-time, 0 vacancies

-Nurse, R.N. (Occupational) 1 full-time, 0 part-time, 0 vacancies

-Industrial Hygienist, 5 full-time, 0 part-time, 0 vacancies

TRAINING:

-Apprentice Training Division - training programs are implemented when based on need for a specific skill in a particular area. Worker receives wages. Duration of program is 1 - 4 years. Upon completion, examination and certification is given persons in certain programs. Employment is offered upon satisfactory completion of the apprenticeship.

-Active Apprenticeship Training Programs:

Prosthetist, Newington Children's Hospital, Newington

Surgical Technician, Yale-New Haven Hospital, New Haven

Registered Pharmacist, Rockville General Hospital, Rockville

Orthopedic Technician, Connecticut Orthopedic Service, Wethersfield

Hospital Repair Technician, New Britain General Hospital, New Britain

Orthotist, Newington Children's Hospital, Newington

COMMENTS:

-Industrial Hygienist:

Entry requirement for the Industrial Hygienist is a B.S. degree, preferably a major in science, although a concentration in engineering is acceptable. Specialized graduate training in Industrial Hygiene is limited in Connecticut. The University of Bridgeport offers no credit course on OSHA. In the Northeast, Master's Degree programs in Industrial Hygiene are offered at Harvard University and the University of Pittsburgh.

STATE AGENCY: DEPARTMENT OF LABOR

COMMENTS:

-Occupational Nurse:

Agency felt need for nurses education to include training for industrial specialty. Also, need for continuing education for graduate nurse for industrial specialty.

-Office and Research and Information provided the following information:

The Connecticut State Employment Service Job Bank showed 168 openings in health-related occupations at the end of November 1973. Included in this total were 65 openings for Nurse Aides and other Hospital Attendants, 43 for Licensed Practical Nurses, 37 for General Duty RNs and 13 for Army Reserve Medics. Other health job openings included 4 for Head Nurses, 2 for Nursing Directors, and 1 each for Pharmacy Helper, Dental Hygienist, Occupational Therapist, and Blood Technician.

The latest available occupational detail for the study side, i.e. active applicants registered with the State Employment Service is for September 1973. At the end of September there were 1,628 registered applicants who had health-related backgrounds. Included in this total were 1,019 Hospital Attendants and related workers, 202 LPNs, 76 General Duty RNs, 23 Supervisory-level RNs, and 308 of various types of medical and health service Technologists.

STATE AGENCY: DEPARTMENT OF MENTAL HEALTH

SERVICES:

-Provides treatment and care for the mentally ill not treated in private mental health facilities.

-Serves as advisors to community and private colleges offering education/training for careers in mental health

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GEOGRAPHIC AREAS SERVICED:

-Bridgeport: Alcohol and Drug Dependence (out-patient clinic); Greater Bridgeport Community Mental Health Center
-Hamden: High Meadow
-Hartford: Albany Avenue Child Guidance Center; Alcohol and Drug Dependence Division Blue Hills Hospital
-Meriden: Undercliff Mental Health Center
-Middletown: Connecticut Valley Hospital; Whiting Forensic Institute Security Treatment Center
-New Haven: Alcohol and Drug Dependence (out-patient clinic); Connecticut Mental Health Center
-Newtown: Fairfield Hills Hospital
-Norwich: Alcohol and Drug Dependence (OPC); Norwich State Hospital; Ribicoff Research Center

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HEALTH OCCUPATION CATEGORY EMPLOYED:

Psychiatrist	Pharmacist	Social Worker, MSW
Psychologist	Occupational Therapist	Social Worker, B.S.
Psychiatric Aide	Physical Therapist	Special Education Teacher
Nurse, R.N.	Recreational Therapist	Dentist

The Registered Nurse, Licensed Practical Nurse, and Psychiatric Aide constitute the largest personnel class. Department reports shortest supply of higher echelon personnel, i.e., psychiatrists, clinical psychologist, social workers (MSW).

STATE AGENCY: DEPARTMENT OF MENTAL HEALTH

TRAINING:

-Training program for Psychiatric Aides from Grade I to IV.
-Internship for Clinical Psychologists at State Hospitals
-On-going training for Social Workers in conjunction with:
 a) community colleges at Associate Degree level
 b) in-state and out-of-state colleges and university (B.S. and M.S. levels)
-In house on-going training for departmental social workers for purpose of up grading job level of existing personnel.
-Department serves in an advisory role to 10 colleges and clinics for Mental Health Worker, Human Services Worker, and Child Care Worker.

COMMENTS:

-The department felt that certification and licensing of Physician Assistants and Nurse Assistant would be helpful to furnish services in areas of shortage.

-Resident population of in-patient facilities are declining , long-range planning for this department will concentrate on the community.

-Plans for a Capitol Region Mental Health Center at the former Jones Home, in cooperation with the Department of Psychiatry at the University of Connecticut Health Center, is currently under consideration. This will serve the Capitol Region area which includes the North Central section of the State. Patients from this region usually sent to Norwich Hospital will be treated here (with certain exceptions.) Other Department of Mental Health facilities such as Albany Avenue Child Guidance Clinic, Blue Hills Hospital, Halfway houses, etc. will be part of the planned Capitol Region Mental Health Center. This will include plans for some in-patient services, as well as an Intensive Care Unit at the Jones Home. For the present, new positions are not anticipated to staff this facility. The Department of Mental Health expects to staff positions from attrition of Norwich Hospital staff.

-Observation: Reasons for hospital admission reflect shifts; Alcoholism reflects an increase - (45% in 1973; 37% in 1972.) Drug Abuse reflects a 50% decrease- (7% in 1973; 14% in 1972.) Schizophrenia and paranoia reflect a constant - (17%.)

-72% of admissions are male--reflecting heavy alcoholism readmissions.

-The educational director identified the mental health worker program as a illustration of the need for coordination of academic and clinical training. This type of program requires a multi-discipline approach to training, in a variety of settings. The services of a coordinator would insure maximum exposure to the varied disciplines for the student.

NEWLY BUDGETED POSITIONS FOR DEPARTMENTS OF MENTAL HEALTH (STATE HOSPITALS) 11/8/73

	Conn. Valley			Fairfield Hills			Norwich		
	Approved	Filled	Vacant	Approved	Filled	Vacant	Approved	Filled	Vacant
Case Worker I	4	2	2	5	5		3	2	1
Case Worker II	1	1		23	23		2	2	
Dental Hygienist				1		1			
Director of Nursing	1		1	20	20				
Hairdresser	1	1		4	4				
Head Nurse	14	2	12				10	10	
Maintainer I	19	19							
Maintainer III	2	2							
Music Therapist	2	1	1						
Nurse Clinic. Instruct. I				4		4	2	1	1
Nurse Clinical Specialist							2	1	1
Nurse Supervisor	2		2						
Occupation.Therapist II				3		3			
Occupation.Therapist III				3		3			
Pharmacist I				2		2			
Physical Therapist I				2		2			
Psychiatric Aide I	4	4		80	70	10	40	13	27
Psychiatric Aide II	68	39	29	25	3	22	5	5	
Psychiatric Aide III	13	4	9				3		3
Psychiatric Aide IV	4	3	1						
Psych. Soc. Worker I	1		1	6	3	3			
Psych. Soc. Worker II				5	1	4			
Psychiatrist II				1		1			
Psychiatrist III				3		3	3		3
Psychiatrist IV	3		3	3		3	5		5
Psychiatrist V									
Psychologist I	2	1	1	3		3			
Psychologist II	1	1		2		2	1		1
Psychologist III				5		5	2		2
Psychology Assistant II				2	2				
Psychology Associate II				2		2			
Psychology Intern							1		1
Recreation Aide	3	3		5	2	3			
Recreation Worker	1	1		4	4				
Resident Physician							4		4
Senior Physician				1		1			
Sr. Psych. Soc. Worker				3		3			
Special Assistant(pat. Ed)	2		2						
Staff Nurse	39	2	37	46	5	41	13	13	
State School Teacher I							2	2	
State School Teacher II	1	1					2	1	1
State School Teacher III							3	3	
Stenographer I				3		3			
Stenographer II							1		1
Stenographer III							2		2
Supvr. Psych. Soc. Worker				6		6			
Therapy Aide II	2	2		5	1	4			
Typist II	6	6		7	5	2	20	19	1
Totals	196	95	101	281	148	133	123	72	51

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p. F-18

STATE AGENCY: DEPARTMENT OF HEALTH

DIVISION(S): Community Health

SERVICES:

- Provides necessary diagnostic, prosthesis, and therapies for handicapped children.
- Dispenses general public health information.
- Social work consultation to hospitals, nursing homes, day care centers, and clinics.
- Monitors and sets maternity and pediatric standards for 32 hospitals.
- Provides various health care, developmental, and social services for the teen-aged mother, pre-school child, newborn and mother.
- Licenses child day care centers.
- Nutrition consultation and education.
- Licensing child health clinics.
- Audiometry screening.
- Testing for PKU.
- Provides dental screening and propholactic treatment for pre-school and school aged children. Provides dental health education.
- Public Health registration of Vital Statistics.
- Poison Information Center.

HEALTH OCCUPATION CATEGORY EMPLOYED:

- Community Health Division:
- Physical Therapist: 1 full-time, 0 part-time, 3 full-time vacancies
- Occupational Therapist: 2 full-time, 0 part-time, 1 full-time vacancy
- Social Worker: 7 full-time, 3 part-time, 0 vacancies

STATE AGENCY: DEPARTMENT OF HEALTH (Cont'd)

DIVISION(S): Community Health

HEALTH OCCUPATION CATEGORY EMPLOYED (Cont'd):	- Dental Hygienist: 4 full-time, 0 part-time, 1 full-time vacancy - Health Educator: 7 full-time, 0 part-time - Clinical Psychologist: 1 full-time, 0 part-time - Speech Pathologist and Audiologist: 5 full-time, 0 part-time
TRAINING:	- Provides in-service training for state health personnel, based on general public health needs. - The Nutrition Section currently offers a Food Services Supervisor Training Program in co-operation with Bullard Havens Vocational School.

LOCAL REGIONAL AREAS SERVED BY COMMUNITY HEALTH DIVISION

C H E A R E A A

Danbury Hospital
Crippled Children's Clinic

Torrington Clinic
Pediatric-Cardiac Clinic

C H E A R E A B

Wheeler Child Development Clinic, Plainville

Enfield Clinic

C H E A R E A C

Storrs Child Development Clinic (Clinic held at the University of Connecticut - Department of Speech Building)

Willimantic Clinic
Crippled Children's Clinic

Putnam Clinic
Crippled Children's Clinic
Pediatric-Cardiac Clinic

C H E A R E A D

Norwich Clinic
Crippled Children's Clinic
Pediatric-Cardiac Clinic
Child Development Clinic

C H E A R E A E

New Haven - Child Development Unit

Bridgeport - Child Development Clinic

Derby Clinic
Crippled Children's Clinic

Shelton - Child Development Clinic

Stamford Rehabilitation Center
Crippled Children's Clinic

STATE AGENCY: DEPARTMENT OF HEALTH

DIVISION(S): Environmental Health Services

SERVICES:

- Provides preventive services: surveys, water supplies, sewage disposal, food establishments, housing facilities, migrant labor camps, recreational facilities, insect and rodent control.
- Serves as consultants, advisors, promote local training programs, and certifies environmental inspectors.

HEALTH OCCUPATION CATEGORY EMPLOYED:

- Environmental Health Division:
- State - Env. Health Technologist: 18 full-time, 0 part-time, 1 vacancy
- Local Env. Health Technologist: 85 full-time, 0 part-time, 6 vacancies
- Local Env. Health Technician: 35 full-time, 0 part-time, 0 vacancies

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TRAINING:

- Employees hold a B.S. degree in the sciences, sanitary sciences, chemistry, bacteriology. Currently. training for environmental health fields is clustered in the south central portion of the State.

COMMENTS:

- Hiring for this section is difficult because of competition from the private sector.
- A need for monitoring environmental health factors exists, but this is directly reflective on the economy of the community. National Environmental Statistics suggest one sanitarian for every 15,000 population. At present, Connecticut has about 85 for local public health departments.*

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* Hanlon, John. Principles of Public Health Administration. C. V. Mosbe & Co., St. Louis, Missouri 1969. P. 254

STATE AGENCY: DEPARTMENT OF HEALTH

DIVISION(S): Hospital and Medical Care

SERVICES:	- Under Medicare and Medicaid, licenses, surveys, and certifies health delivery institutions and agencies, e.g., nursing homes, hospitals facilities, etc. - Under the Hill Burton Act, provides for health facility constructions. - Provides consultation to institutions and agencies licensed in state. - Enforces public health code.
HEALTH OCCUPATION CATEGORY EMPLOYED:	- Hospital and Medical Care: (2 full-time, 4 part-time) - Nursing, Registered Nurse, Diploma: 14 full-time - Nursing, Registered Nurse, B.S.: 2 full-time - Nursing, Registered Nurse, M.S.: 2 full-time - Health Care Administrator: 1 full-time - Hospital Administrator: 1 full-time
TRAINING:	- In-house training program for Recreation Program Directors

STATE AGENCY: DEPARTMENT OF HEALTH

DIVISION(S): Office of Mental Retardation (OMR)

SERVICES:	- Plans and coordinates a comprehensive program for the state mentally retarded (MR)* - Operates regional centers, state training schools, and all state-operated residential facilities for the diagnosis, care and training of the retarded. - Licenses private, residential facilities for the MR to meet federal and state fire, health, and drug laws. - OMR reflects 58% of the Department of Health budget employing 2939 personnel.
HEALTH OCCUPATION CATEGORY EMPLOYED:	- Teachers I, II, and III for retarded at the State training schools. - Mental Retardation Program Instructor teaches skills (at the State Training School or Regional Centers) enabling the severely retarded to manage vocational, recreational, and socialization situations. An Instructor needs an Associate Degree in child development or mental-health technology, psychology, etc. B.S. degree teachers, unsuccessful in procuring jobs in educational institutions, are currently employed as Program Instructors for the MR. - Mental Retardation Aides I and II act as part of a training team geared to providing aid to the handicapped in daily living activities. - Mentally Retarded Aide Supervisor has 24-hour responsibility for living quarters housing residents; oversees the general care, feeding, clothing, and general treatment of residents. The person also works with the MR's parents and/or families.

* MR - Mentally Retarded

STATE AGENCY: DEPARTMENT OF HEALTH (Cont'd)

DIVISIONS(S): Office of Mental Retardation (Cont'd)

TRAINING:

- Care of the MR is changing philosophically from one of custodial care to training, i.e., bringing the MR population closer to community life.
- All professionals involved in care of retarded must have knowledge of Behavior Modification and Developmental Disabilities. These techniques are used to teach self-help skills by constant observation and reinforcement.
- Under "Project Challenge" the long-range plan of the OMR calls for better utilization of community colleges as training facilities to teach persons to work with the MR.
- There is in-service training for the direct-care staff (MR Aides). The MR Aide can be trained to become a Program Instructor after successfully completing 2 years of on-the-job training as an MR Aide. (An example of career ladder concept).

COMMENTS:

- Behavior Modification Techniques will be incorporated in the concept of a Mental Retardation Developmental Team consisting of a behavior therapist plus physical, occupational and recreation therapists, etc. This team concept will be used in regional centers, residential centers, and group homes.
- The change of emphasis in OMR is from one of custodian to trainer. This training includes learning programs for the parents of the MR and will require an increase of training personnel.
- Although there is a reduced birth rate and a corresponding decline in the MR population, there will be a greater need to expand services and to provide specialized personnel in view of OMR's training emphasis. (Custodial care required fewer professional and semi-professional personnel). cf. for list of estimates of additional staff required.
- Group homes which provide a home-setting as opposed to an institution for the mildly or moderately retarded are being planned.

STATE AGENCY: DEPARTMENT OF HEALTH (Cont'd)

DIVISION(S): Office of Mental Retardation (Cont'd)

COMMENTS (Cont'd)

- Special education programs in colleges and universities in Connecticut do not include training for the child considered below educable levels, the "functional educable." Connecticut students pursuing formal training in this area of study must go to other states, e.g., Wisconsin, Florida.

- Although not included in the state budget, but closely related to the concepts of care for the handicapped are the Sheltered Workshop Programs. These organizations operate on a sub-contract by competitive bid within the private sector of business and industry. These workshops are subsidized by public funds and voluntary organizations such as the Mental Retardation Association. The OMR indicated a need for personnel in this area with 20 job vacancies for vocational rehabilitation personnel. In addition to training in behavioral modification areas, vocational rehabilitation workers require some knowledge of business management. They work as a liaison with social workers, occupational therapists and other professionals involved with the care of the physical and mentally handicapped.

- Two hundred new positions recently budgeted for the Office of Mental Retardation show a shift from federal EEA programs whose funding terminated in December 1973. The state incorporated about 100 of these budgeted positions for additional personnel. Approximate number of newly budgeted positions are: 6 Program Instructors; 13 members of the MR Development Team, - balance MR Aides.

ADDITIONAL HEALTH PROFESSIONAL AND SEMI-PROFESSIONAL STAFF REQUIRED TO IMPLEMENT LONG-RANGE MR PROGRAM OBJECTIVES

NON-RESIDENT PROGRAMS

Type of Personnel	Number Required
Asst. Dir. Social Serv.	1
Case Aide	6
Case Worker I	7
Case Worker II	9
Dietitian	1
Head Nurse	2
MR Aide I	140
MR Aide II	23
MR Aide Super. I	6
MR Program Instructor	133½
Homemaker Health Aide	1
M.R. Service Program Specialties	(33 1/3 (2 PT
Occupational Therapist	2
Pediatric Nurse	1
Physical Therapist	4
Psychologist I	6
Psychologist II	3
Psychologist Assoc. II	2
Public Health Nurse Cons.II	1
Recreation Aide	23½
Recreation Supervisor	3
Recreation Worker	22
Social Worker I	47
Staff Nurse	10
State School Dept. Head	5
State School Teacher I	55½
State School Teacher II	5
Vocational Rehabilitation Counselor	2

RESIDENT PROGRAMS

Type of Personnel	Number Required
Asst. Dir. Resident Program I	1
Asst. Dir. Social Serv.	1
Case Worker I	9
Case Worker II	4
Dir. Food Service II	1
Dir. Resident Care	2
MR Aide I	702
MR Aide II	216
MR Aide Super. I	27
MR Aide Super. II	5
MR Program Instructor	38
MR Resident Program SuperI	5
MR Resident Program SuperII	1
MR Service Program Specialties	9
Nursing Care Supervisor	1
Occupational Therapist	4
Psychologist	8
Psychologist Assoc.	1
Physical Therapist	9
Recreation Aide	5
Recreation Worker	4
Social Worker	20
State School Dept. Head	1
State School Teacher I	11
State School Teacher II	5
Staff Nurse	39
Vocational Rehabilitation Counselor	1
Case Aide	2

STATE AGENCY: DEPARTMENT OF HEALTH

DIVISION(S): Laboratory

SERVICES:

- Examines and tests clinical and environmental materials for physicians, hospitals, police, state departments, etc.

HEALTH OCCUPATIONS CATEGORY EMPLOYED:

- Medical Technologist: 6 full-time, 1 full-time vacancy
- Chemists: 40 full-time, 5 full-time vacancies
- Microbiologists: 34 full-time, 2 full-time vacancies
- Serologists: 5 full-time
- Laboratory Technicians: 18 full-time, 4 full-time vacancies

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TRAINING:

- In-Service training for laboratory specialty for employees who hold B. S. degree with major in sciences.
  (B. S. degree employee considered preferable. Two year A. S. program not considered sufficient background).
- On-the-job training for high school graduates is available for training at laboratory technician level.

COMMENTS:

- Currently, medical technologists are considered in oversupply; slack is expected to be absorbed after implementation of national health plans under consideration.

STATE AGENCY: DEPARTMENT OF HEALTH

DIVISION(S): Preventable Diseases

SERVICES:

- Offers direct medical care for State employees. Covers occupationally-related health and/or emergency care.
- In cooperation with U.S. Department of Health, is concerned with screening and treatment of persons with venereal disease.
- Registers persons with communicable diseases, e.g., hepatitis, measles.
- Provides tumor registry and maintains data on persons suffering from stroke, hypertension, etc.
- Monitors the training of emergency health services personnel.

HEALTH OCCUPATIONS CATEGORY EMPLOYED:

- VD Investigators: 4 full-time
- Medical Records Technician: 13 full-time, 2 vacancies
- Nurse, Supervisor: 1 full-time
- Nurse, Head: 1 full-time
- Nurse, Staff: 6 full-time
- Medical Stenographer: 1 full-time, 0 vacancies
- Medical Typist: 1 full-time, 0 vacancies

TRAINING:

- Under the Emergency Health Services Section: trains Emergency Medical Technicians for commercial and voluntary ambulance manpower. Currently classroom training available at 3 community colleges; practical training at 20 local hospitals.
(Funding for ambulance training is under the U.S. Departments of Transportation administered through Connecticut Department of Transportation.)

COMMENTS:

- The director of EMT program has been reassigned; an acting director has been designated to administer program.

STATE AGENCY: DEPARTMENT OF HEALTH

DIVISION(S): Public Health Nursing

SERVICES:

- Coordinates training and supervision for the Home Health Aid Program.
- Performs technical assistance for 113 local public health nursing services to hospitals, VNA, schools, and other community health programs.
- Administers state grants for Public Health Nursing Services for towns under 5000.
- Licenses of infirmaries in Educational Institutions.
- Promotes health service coordinator programs.
- Surveys and certifies Home Health Agencies (under Medicare)

HEALTH OCCUPATION CATEGORY EMPLOYED:

- Public Health Nursing Division:
- Nursing, Registered Nurse, MPH: 12 full-time, 1 part-time, 2 vacancies
- Nursing, Registered Nurse, B.S.: 1 full-time, 0 part-time, 0 vacancies
- Nursing, Registered Nurse, Diploma or A.S.: 7 full-time, 1 part-time, 0 vacancies
- Home Management Consultant: 1 full-time, 0 part-time, 0 vacancies

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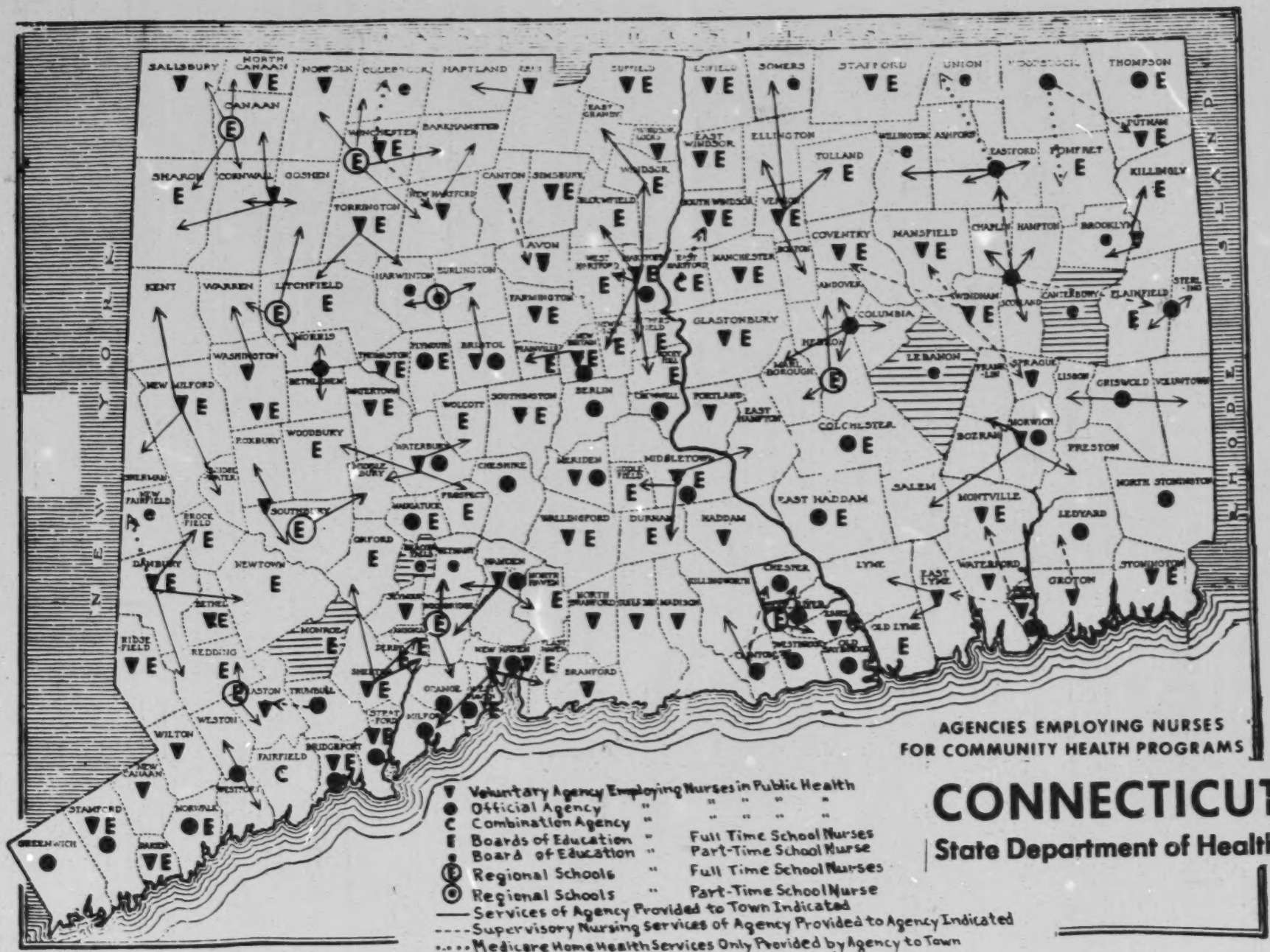
TRAINING:

- Homemaker Home Health Aides (classroom training at Vinal Vocational Technical) Certification by this division.

COMMENTS:

- Home Health Care Programs offer potential because there is a growing tendency to get the patient in and out of the hospital and back to his home as soon as possible. The Health Service Coordinator is the liaison between the hospital/patient/home/community health agencies.
- Broader regional areas might be more efficient to administer services than 113 separate local agencies. (See map)


AGENCIES EMPLOYING NURSES
FOR COMMUNITY HEALTH PROGRAMS
CONNECTICUT
State Department of Health
▼ Voluntary Agency Employing Nurses in Public Health
● Official Agency " " " " "
C Combination Agency " " " " "
E Boards of Education " Full Time School Nurses
• Board of Education " Part-Time School Nurse
(E) Regional Schools " Full Time School Nurses
(•) Regional Schools " Part-Time School Nurse
—— Services of Agency Provided to Town Indicated
---- Supervisory Nursing Services of Agency Provided to Agency Indicated
·-·-· Medicare Home Health Services Only Provided by Agency to Town
No Organized Nursing Care Services in Homes Available
As Known to Public Health Nursing Division
7/1972
EXHIBIT I
F-31/32
F-31

A MINI-SURVEY- CATEGORIES OF HEALTH PERSONNEL UTILIZED BY SELECTED CONNECTICUT STATE AGENCIES as of October, 1973

	AGRICULTURE	CHILDREN AND YOUTH SERVICES	CONSUMER PROTECTION	CORRECTIONS	EDUCATION	ENVIRONMENTAL PROTECTION	LABOR	MENTAL HEALTH	DEPARTMENT OF HEALTH						
									Community Health Division	Environmental Health Division	Hospital and Medical Care Division	Office of Mental Retardation	Laboratory Division	Preventable Disease Division	Public Health Nursing Division
	Emp.	Emp.	Emp.	Emp.	Emp.	Emp.	Emp.	Emp.	Emp.	Emp.	Emp.	Emp.	Emp.	Emp.	Emp.
Air Pollution Control Engineer						x						x			
Case Aide													x		
Chemist								x							
Child Care Worker								x							
Community Health Aide				x											
Correctional Attendant (LPN)								x							
Dental Assistant								x	x						
Dental Hygienist				x				x	x						
Dentist				x				x	x			x			
Dietitian			x												
Drug Inspector						x				x					
Environmental Health Technician	x					x				x					
Environmental Health Technologist	x														
Food Inspector	x		x					x			x				
Health Care Administrator				x	x				x			x			x
Health Educator				x											x
Home Health Aide															
Home Management Consultant				x				x			x				
Hospital Administrator							x								
Industrial Hygienist								x					x		
Manual Arts Therapist															
Medical Laboratory Asst. (Lab. Tech.)								x							
Medical Librarian								x						x	
Medical Records Librarian								x						x	
Medical Records Technician								x					x		
Medical Stenographer				x				x						x	
Medical Technologist								x							
Medical Transcriptionist								x						x	
Medical Typist												x			
MR Aide												x			
MR Aide Supervisor															

Medical Stenographer									x						x	
Medical Technologist									x						x	
Medical Transcriptionist					x				x					x		
Medical Typist									x							
MR Aide									x						x	
MR Aide Supervisor													x			
MR Program Instructor													x			
MR Program Instructor Supervisor													x			
Microbiologist													x			
Music Therapist														x		
Nurse, RN		x			x	x		x	x	x		x	x		x	x
Nurse, RN, BS					x				x	x		x	x		x	x
Nurse, RN, MS						x			x	x		x	x		x	x
Occupational Therapist									x	x			x			
Occupational Therapist Assistant									x							
Pharmacist			x						x			x				
Physical Therapist					x				x	x			x			
Physician		x				x		x	x	x			x		x	
Psychiatric Aide									x							
Psychologist		x				x			x	x			x			
Psychologist Assistant		x							x							
Psychologist, Examiner						x										
Radiologic Technologist									x							
Recreation Therapist (Worker)		x							x			x	x			
Recreational Therapy Assistant		x														
Recreational Aide		x							x				x			
Sanitary Engineer							x									
Serologist														x		
Social Worker (includes Case Worker)		x			x				x	x			x			
Social Worker, MSW		x				x			x	x			x			
Special Education Aide					x	x			x							
Special Education, Counselor		x			x	x										
Special Education, Teacher		x			x	x			x				x			
Speech Pathologist and Audiologist						x			x	x			x			
VD Investigator															x	
Veterinarian	x															
Vocational Rehabilitation Counselor					x	x			x				x			

NOTES:

1. Emp - represents health personnel employed.
2. Degree level omitted when unknown (RN, Social Workers).
3. These occupations are general terms. They do not always represent category of State job specifications.
4. "MR" - abbreviation for Mental Retardation.

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EMPLOYMENT PROFILE OF SELECTED HEALTH OCCUPATIONS-STATE AGENCIES AND STATE HOSPITALS
A MINI-SURVEY* OCTOBER 1973

	Full-time Employees	Part-Time Employees	Full-Time Equivalents	Full-Time Equivalent Employment Opportunities	Vacancies
Nursing, R.N.	1221	127	1284.5	1398.0	113.5
Nursing, LPN	161	12	167.0	185.5	18.5
Nursing Aide	225	3	226.5	245.5	19.0
Correctional Attendant	28	0	28.0	31.0	3.0
Pediatric Nurse Associate	1	2	1.5	1.5	0
Medical Technologist	63	8	67.0	75.0	8.0
Medical Laboratory Technician	5	0	5.0	6.0	1.0
Certified Laboratory Assistant	3	0	3.0	3.0	0
Medical Laboratory Assistant	18	0	18.0	22.0	4.0
Chemist	40	0	40.0	45.0	5.0
Microbiologist	34	0	34.0	36.0	2.0
Serologist	5	0	5.0	5.0	0
Radiologic Technologist	31	0	31.0	35.0	4.0
Physical Therapist	23	0	23.0	27.0	4.0
Physical Therapy Assistant	2	0	2.0	3.0	1.0
Physical Therapy Aide	2	0	2.0	3.0	1.0
Occupational Therapist	29	0	29.0	36.5	7.5
Occupational Therapy Assistant	36	1	36.5	45.5	9.0
Occupational Therapy Aide	32	0	32.0	32.0	0
Speech Pathologist & Audiologist	7	1	7.5	7.5	0
Recreation Therapist	12	0	12.0	13.0	1.0
Recreation Worker	9	2	10.0	10.0	0
Recreation Therapy Assistant	13	0	13.0	17.0	4.0
Recreation Aide	3	2	4.0	4.0	0
Manual Arts Therapist	3	0	3.0	3.0	0
Music Therapist	5	0	5.0	7.0	2.0
Respiratory Therapy	8	0	8.0	8.0	0
Dietitian	14	0	14.0	14.0	0
Social Worker, M.S.W.	70	4	72.0	95.0	23.0
Social Worker, B.S.	55	3	56.5	71.5	15.0
Social Worker, Degree unspecified (Case Worker)	19	4	21.0	22.0	1.0
Rehabilitation Services Counselor	185	0	185.0	206.5	21.5
Home Management Consultant	1	0	1.0	1.0	0
Mental Health Worker	3	0	3.0	3.0	0
Psychiatric Aide	1577	24	1589.0	1737.0	148.0
Community Health Aide	11	0	11.0	11.0	0
Medical Records Librarian	11	0	11	12.0	1
Medical Records Technician	19	0	19	22.0	3
Medical Transcriptionist	64	1	65	65.5	.5
Medical Stenographer	5	0	5.0	5.0	0
Medical Typist	14	0	1.0	1.0	0
Environmental Health Technologist	142	0	142.0	142.0	0
Environmental Health Technician	33	1	33.5	33.5	0
Air Pollution Control Engineer	56	0	56	71	15
Sanitary Engineer	24	0	24.0	29.0	5.0
Drug Inspector	4	0	4.0	4.0	0
Food Inspector	63	3	64.5	65.0	.5
Industrial Hygienist	5	0	5.0	5.0	0
V.D. Investigator	4	0	4.0	4.0	0
Health Care & Services Administrator	12	0	12.0	13.0	1.0
Hospital Administrator	14	0	14.0	14.0	0
Medical Librarian	4	1	4.5	4.5	0
Dental Hygienist, B.S.		1	.5	.5	0
Dental Hygienist, A.S.	1	0	1.0	1.0	0
Dental Hygienist Unspecified	95	0	95.0	96.0	1.0
Dental Assistant	32	0	32.0	35.0	3.0
Dental Laboratory Technician	5	0	5.0	5.0	0
Health Educator	7	0	7.0	7.0	0
Teacher, Special Education			1939.6	1952.1	12.5
Child Care Worker	77	7	80.5	83.5	3.0
Pharmacist	32	0	32.0	32.0	0
Surgical Technician	4	0	4.0	4.0	0
Clinical Psychologist	50	6	53.0	66.0	13.0
Veterinarian	3	0	3.0	3.0	0

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* Statistics omitted for physicians, dentists, mental retardation.
Statistics partial for Health Educator and Teacher, Special Education

A mini survey of state agencies and its subdivisions revealed a variety of informal and formal educational efforts engaged in by each of these agencies. Inservice training occurs in the forms of on-the-job supervision, workshops and seminars, refresher courses and specific training programs. These are presented by agency staff or by arrangements with educational institutions. Connecticut offers a 50% tuition reimbursement program to state personnel for approved educational courses attended outside the employing agency. The following agencies indicate educational activities:

Children and Youth - Arranges for skill developments in counseling with Hartford Family Institute; after-care staff training at the University of Connecticut; behavioral modification with Yale and Long Lane School; HECUS program.

Consumer Protection - Offers approved pharmacist internship.

Education - Offers three-day workshops to school nurses for special education.

Environmental Protection - Offers two-week air compliance seminars for inspectors; training for municipal waste water operators.

Health:
Community Health Division - Offers 70-hour course for local public health directors; V.D. workshops for teachers; in-service training for public health program assistant and screening aide; a food service supervisor training with vocational-technical school.
Environmental Health Division - Offers annual 18-day workshop to sanitarians. Certification earned in environmental health services; arranges with U.S. Public Health Service for 3-day local workshops on specific health problems, i.e. food.
Hospital and Medical Care Division - Makes available for staff one-day seminars (maximum four per year) and tuition-free Nursing Home Administration course at University of Connecticut, Hartford Branch; offers mandatory three-month orientation program for Nursing Home Inspector including one month at Tulane University; offers in-service training for recreation program directors.
Laboratory Division - Offers in-service training to laboratory assistants in microbiology and chemistry as well as to microbiologist and chemist trainees.
Office of Mental Retardation - Offers in-service training to mental retardation aides; occasional workshops, i.e., functional education, with Southern Connecticut State College.
Preventable Disease Division - Involved with Emergency Medical Technician training for ambulance manpower; 81-hour program and refresher courses available at three community colleges and twenty hospitals. Funds through the Department of Transportation.
Public Health Nursing Division - Offers workshops twice yearly for infirmaries in educational institutions; workshops for supervisors of home health agencies (Medicare); education of home health aide in conjunction with vocational-technical schools.
Labor Department - Offers Apprentice Training Programs; operating room technicians, medical lab technician, dental technician, orthotist, prosthetist, hospital repair technician.
Mental Health - Offers residency training in psychiatry and clinical psychology; clinical education for the nurse, mental health worker, psychiatric social worker, psychiatric aide.

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Section G. OCCUPATIONAL PROFILES

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SUMMARY

In preparing the information entered in the study as Occupational Profiles, we have attempted to assemble the most current available data on a number of points: the name of occupation, its definition in terms of function and responsibilities, place of work and employment statistics (number of workers, sex, age, distribution). We have noted licensure, registration and certification requirements and have paid most specific attention to educational requirements and available programs. Material has been gathered for the nation as a whole, the Northeast, and last but hardly least, the State of Connecticut, where information on particular programs has been included.

There are a number of insights, intimations, ways of proceeding and downright trends and portents for the future that arise out of this material. To begin at the beginning, let us take names. Names might not seem to be a likely issue of concern, but they are just that in various ways. On the one hand, for instance, everyone in the physician's office would like to consider herself a Medical Assistant, but there are specific educational requirements for the certified M.A. The person who might be called a Recreation Therapist is known in the profession as a Therapeutic Recreator because to him or her it connotes more specifically the occupation's function.

It may be noted that the conflicting terminology of occupations in such areas as respiratory therapy (né inhalation therapy), where the respiratory therapy technician is also known as an assistant, may have led to some merging of data in the study.

The mix of names becomes painfully pronounced in the emergent occupation of the Physician's Assistant, where such varied names as child health associate, clinical associate, community health medic do not differentiate between individuals who have received training which varies in length from five weeks to five years, nor does it indicate previous qualifications.

Persons in the profession are fussier about whom they call what. The general public (and even the Department of Labor) may consider as Physical Therapy Assistants those trained under such auspices and in such institutions as vocational technical schools or even on the job, but the American Physical Therapy Association recognizes as PTAs only persons who have completed a two year Associate Degree program.

The trend toward more education, formal education, for all occupations, even those which are essentially supportive in nature, is indeed perhaps the single most insistent element underlying and underscored by information gathered here.

The reach is from administrative to assistant positions. Not only the above mentioned PTA, but the Nursing Home Administrator is affected: by 1975, the latter will be required to have completed two years of post secondary education. A push toward certification as in the aforementioned Medical Assistant is a part of this thrust. This would seem to have two consequences: to upgrade and formalize standards, and perhaps to alter the relationship or balance between cooperating professions.

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Perhaps it is this sort of thinking on one level that makes a Pediatric Nurse Associate very careful about how she defines her profession, in which she works "in association with" and not "under the supervision of" the physician. She may indeed be in a clinical setting where the doctor is not in situ but reachable by telephone.

But let us move on to more substantive items. As already noted:

* More people are receiving formal education and formal education is being increasingly preferred and even required for health occupations in general.

* More people are being educated - more training programs are being carried out - in educational institutions, often in conjunction and cooperation with medical institutions, in part because of government funding allocations to educational facilities over hospital facilities.

Other factors include the trend toward legally required academic preparation over hospital-based preparation and the problem of financing programs in hospitals due to rate-cost curtailments. A specific example of this is the new arrangements developed and developing in radiology. There are two corollaries to this fact.

1. There is a need for guidelines to be drawn up between educational and medical institutions cooperating with one another, as noted regarding x-ray technology in our report.

2. There is a need for consideration of clinical training availabilities. More people are being educated in an educational setting with clinical affiliations elsewhere - and "elsewhere" may be far away indeed, as arrangements cannot always be made, despite the trend toward cooperation on a local level.

   Witness the Physical Therapist who takes her didactic training at the University of Connecticut and may have to travel to Washington, D.C. or Texas for her clinical experience because slots are not available to her nearby.

Two conjunctive items toward this trend to upgrade the professions are:

1. the interest in continuing education, as expressed in such diverse areas as dietetics, radiology, nursemidwifery and optometry.

2. the move toward the development of proficiency and equivalency examinations for such occupations as the laboratory professions to enable persons with skills and experience, but not necessarily with the education requirements needed to perform in today's market.

This leads us to the whole question of licensure. Again, it is being increasingly recommended, as with the Radiotherapist, or implemented, as with the Speech Pathologist or Audiologist. Reciprocity,

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as with the Optometrist, of licensure between states is a further consideration for standardization. One aberration from this tendency is at present the developing Physician's Assistant profession, where the AMA has expressed concern that premature standardization by licensure may rigidify the profession, and has set up a committee to study licensure. (It has recently affirmed interest in certification for the P.A. to ensure some sort of standardization).

To take up the nature of the work force and its whereabouts, let us consider the following:

* More women are entering fields mainly powered by men, while more men are moving into those formerly the province of women.

  There are more men going into dietetics; there is an urgent call for male LPNs and psychiatric nurses.

  More women are becoming respiratory therapists (newer equipment is lighter to handle, perhaps a factor); more women are going into pharmacy which raises prickly questions as to the ultimate effect and female productivity (hitherto women's professional lives have been shorter than their male counterparts, but lifestyles are changing).

  Professionals in both respiratory therapy and radiology have noted the decrease in female job-turnover.

* Indeed, as one looks into the allied health manpower occupations in general, it is the women who predominate in a majority of fields.

  Dietitians are still nearly 99.9% pure, as are nurses (despite the fact that a recent president of the Connecticut Nurses Association was a man and that there is one male presently practicing nurse-midwifery and one in school).

  Dental hygienists and assistants, laboratory personnel, medical records administrators, office personnel, radiologists, and occupational therapists are all occupations mainly "manned" by women.

It is in the professions, such as hospital administration, pharmacy, optometry, that men still prevail, although there are hefty minorities of women in the first two fields noted. (Our information on other minorities is scant and we cannot generalize from it.)

* Distribution or maldistribution is a vital factor in manpower utilization, which must be seriously considered with a view to alleviation of both overages and shortages.

  Some areas are abundantly supplied while others go begging. This is not only a problem in the state but in the region. In Connecticut, Occupational Therapists and Dental Hygienists are sparsely located in some parts of the state, (as are radiotherapeutic facilities); figures for pharmacists throughout New England reinforce the view that rural (and possibly inner city) areas are not being served.

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* Conjunctive with this aspect of the health manpower picture is the fact that there is a plethora or at least a sufficiency of educational facilities for some occupations, a scarcity for others. The would-be optometrist must travel to Massachusetts, New York or Pennsylvania for training. On the other hand, the Speech Pathologist or Audiologist trained in Connecticut may have to travel to find a place of employment.

What are the needy professions which call for further manpower? They tend to be the developing professions: health education, environmental health, nuclear medicine (this last, the result of the increasing complexity of medical technology and its equipment). Projections for other professions are often based on the nature of prospective population growth, the economy, the prospect of National Health Insurance, as with dental services, or the growth of the health profession itself, as with medical librarians.

What are the professions needing more schools? (The commented scarcity of potential faculty members in such occupations as occupational therapy and optometry is a factor here.) We might consider here the status of dental auxiliaries. A study by the University of Connecticut has estimated the need over the next ten years for health auxiliaries in the state. By 1976 it posited the need for 1,330 dental hygienists (140 a year) in addition to existing "manpower", 2,440 additional dental assistants (or 240 a year) and 548 additional dental laboratory technicians (55 each year). The development of programs is under way, utilizing the career ladder concept between cooperating institutions.

Finally, what is it that the occupations are doing differently from before?

* There is a trend toward serving new populations: the PNA with her primary care pediatric patients, the Rehabilitation Counselor is serving new disabled (and more severely disabled) populations such as the mentally ill, mentally retarded, the public offender, the alcoholic and drug addict, the Therapeutic Recreator moving into the correctional field.

* There is a trend toward independence: The Dietitian, in areas where small institutions cannot carry her services alone, may enter into a consultant arrangement. There are at least six physical therapy group practices in Connecticut for which services are contracted to nursing homes and other employers.

*. This trend toward independence is a concommitant of the present thrust of nursing. The whole nursing field is geared to march onwards and upwards by an educational hierarchy and is indeed literally bursting its bonds into independence with the emergence of the PNA and Adult Nurse Practitioner.

In closing, let us look at this profession, or cluster of professions that make up the nursing field, more closely. It would appear to reveal many of the trends of the day. The nurse may first of all be registered at a certificate or Associate degree level. A baccalaureate degree will open supervisory and administrative doors to her. Further study will fit her for teaching, or for the several specialties.

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Continuing education in the hospital, "non-credit carrying courses" are accessible for specialized nursing within its confines. The LPN is concerned with her career mobility and recognition for previously attained knowledge and skills when she considers continuing her education or professional advancement. Hierarchy is then the basic stuff of advancement.

As the trend of health care moves into community ambulatory services and neighborhood health centers, (even industry) the need for independent clinicians enters the picture. Hence nurse practitioners and nurse midwives. There is a need for recognition of the nurse's new role by her employer, and, perhaps associates, and indeed her patients or clients.

Perhaps it is not too far off the mark to say that the health occupations are coming of age.

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A NOTE ON SOURCES

To prepare this section of the study, staff has used research materials from the U.S. Department of Health, Education and Welfare, the U.S. Department of Labor, studies carried out in Connecticut and other states across the nation. We have also been fortunate to receive materials from a number of professional organizations and have the expert advice of representatives of many professions. Where feasible, material has been correlated with primary data findings as well.

Much of our basic data regarding employment statistics and prospects, legal and educational requirements and access of educational institutions at the national level was drawn from The Occupational Outlook Handbook 1972-73 Edition, Bulletin 1700 of the Bureau of Labor Statistics, U.S. Department of Labor. The statistical year reported in this source is 1970; where possible, we have interfaced more current figures.

The Allied Medical Education Directory, 1973 Edition provided recent statistics on the number of educational programs in the nation and the Northeast, number of graduates, pre-requisites for study, registration requirements for allied health occupations. This has been utilized in conjunction with primary data to give a picture of educational facilities in the nation, Northeast and Connecticut.

Beyond allied health occupations, we have looked to the Health Resources Statistics 1971, published by the National Center for Health Statistics, U.S. Department of Health, Education and Welfare, for information of like nature. HRS is cited of itself and has also served as a factor in assessing the number of educational programs and graduates in the Northeast States Tabulation prepared for the study.

Northeast States: Tabulation of Selected Health Programs Offered, has collected data from the Northeast states from 1970-1973, and is used in conjunction with primary source information.

The study prepared by the State of Washington on health manpower has also been helpful in terms of concept and content. It in turn refers in large degree (in its national section) to Health Resources Statistics 1971.

Health Careers Guidebook, Third Edition 1972 published conjointly by the U.S. Department of Health, Education and Welfare and the U.S. Department of Labor has proved useful in providing general information on some careers where not covered by other sources. We have also drawn from information gathered in Health Careers in Connecticut published by CIHMR in 1973.

Licensure requirements and statistics have been obtained from the Division of Licensing and Registration in the State Department of Health, and also from the individual State boards of licensure or registration.

The State of Connecticut, Office of Legislative Research has promptly provided legislative information upon request.

These and additional sources of information are noted at the close of the section under references.

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HEALTH CARE (SERVICES) ADMINISTRATOR

The Health Care (Services) Administrator is responsible for various aspects of administrative planning, maintenance of acceptable standards, execution of policy, public relations and budgeting. Responsibilities may range from those of a department head to those of an administrator or executive director.

The health care services administrator may work in hospitals, extended care facilities, nursing homes, health maintenance organizations, public health agencies, health education, planning and research organizations.

In 1971, there were 17,200 hospital administrators and assistants, 16,000 nursing and personal care home administrators and assistants in the nation. Health departments employed 5,200 public health administrators, program analysts and program representatives, while there were 10,000 voluntary health agency administrators and assistants. (1)

Educational opportunities in Connecticut range from a one-semester course in health care administration at the University of Connecticut through a two year Associate degree program at Housatonic Community College and a four-year Bachelor's degree program at Quinnipiac College to a two-year graduate program in hospital administration at the Yale University Department of Epidemiology and Public Health, leading to a Master's degree.

HOSPITAL ADMINISTRATOR

The Hospital Administrator administers, directs, and coordinates all activities of the hospital to carry out its objectives in the provision of health care, the furtherance of education and research, and participation in community health programs.

In 1970, of the 17,000 hospital administrators employed in hospitals and related institutions, about 15 percent, including assistants were women, many members of religious orders. (2) In Connecticut, the Connecticut Hospital Association reports that there were 59 administrators and 99 assistant administrators serving in general hospitals in 1973.

The preferred educational background for the post is a Master's degree in hospital administration from an accredited graduate program, also, formal training in social or behavioral sciences, industrial engineering or business administration. In some instances, physicians, registered nurses or specialists are preferred.

Currently, 29 colleges and universities in the United States and seven more in Canada and Puerto Rico offer Master's degree programs in hospital administration.(3) These are generally two year programs with a Bachelor's degree as a prerequisite. One year residency is included; two years of formal training plus a shorter residency is considered acceptable and some programs now require no residency.

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(Hospital Administrator cont'd)

In the Northeast, there are eight educational programs offering Master's degree programs in hospital administration; in Connecticut, Yale University offers a two year program in hospital administration leading to a Master's degree and Quinnipiac College offers a four year program in Health Services Administration leading to a Bachelor's degree.

NURSING HOME ADMINISTRATOR

The Nursing Home Administrator administers, coordinates and directs all activities of a nursing home to carry out its objectives in the provision of health care and maintenance of patients' well-being.

Federal law requires that all institutions participating in Title XIX (Medicaid programs) have a licensed administrator. The most recent figure for those holding a license to practice in Connecticut is 412.

State law requires a course in nursing home administration and internship to provide students with a critical professional experience under the supervision and counsel of a duly licensed nursing home administrator who is approved by the Board for Licensure of Nursing Home Administrators. A one-semester three-credit course and one year internship fulfills this requirement. Prerequisite for the Internship Program is a high school diploma or its equivalent; the intern must also be 21 or more years of age. Course requirements may be filled at the University of Connecticut School of Business Administration and courses in other colleges and universities approved by the Licensure Board.

By 1975, minimum educational requirement will be two years of post-secondary education. This is in line with the concern in the state for the future of the profession.

HOSPITAL MANAGEMENT SYSTEMS ANALYST

The Hospital Management Systems Analyst provides staff services to the hospital administrator for the solution of organizational problems. Generally these services include analysis of existing management systems, the design of improved management systems and the development of criteria which may be used to evaluate the performance of these systems. Functionally, the analyst serves to provide the administrator with the organizational mechanisms for achieving the most effective utilization of the hospital's manpower, equipment and services. He works in the hospital setting.

In Connecticut, the University of Connecticut initiated a six-months Hospital Management Systems Analyst Program in July, 1972 with HEW funds, which was comprised of academic and internship elements.(5) Of the fourteen graduates, seven are currently located in Connecticut, four in Rhode Island. The whereabouts of three are unknown.

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DENTAL HYGIENIST

The Dental Hygienist provides oral health care by cleaning, scaling and polishing teeth; takes x-rays and applies fluoride solutions on teeth, and gives instruction to patients on oral hygiene. She takes and records medical history and may plan and deliver lectures to community organizations and other groups.

The dental hygienist works in private dental offices, dental clinics, schools, insurance companies, industry, hospitals, public health agencies, group practices, teaching institutions.

There has been an increase of 129 percent in the number of dental hygienists practicing between 1950 and 1970. (1) The 1971 Survey of Dental Practice conducted by the American Dental Association indicated that 15,800 dental hygienists were employed full-time and 16,300 part-time by independent dentists in May, 1971. The same survey indicated that 15.8 percent of responding dentists employed dental hygienists full-time, 15.4 percent part-time, with a larger number of specialists than those in general practice employing supportive personnel. (2)

As of November, 1973, the American Dental Hygienist Association reported over 12,651 active members and 8,100 junior members. In Connecticut, there were 826 dental hygienists as of July, 1972, or one to every 3,693 persons in the population according to the Connecticut State Department of Health, Division of Licensure and Registration. They were distributed unevenly throughout the Comprehensive Health Planning Areas ranging from 135 or 3.98 per 10,000 population in the Southwestern region to 11 or .88 per 10,000 in the Windham-Northeastern region.(3)

Minimum educational requirement to become licensed and to practice is the completion of two academic years of college study in an accredited dental hygiene program. Aside from two-year certificate, and Associate degree programs, basic dental hygiene education is offered in four-year Bachelor's degree programs. The two-year program is sufficient for employment by the private practitioner; the four-year program is generally required for teaching or research.

As of September, 1971 there were 131 accredited dental hygiene programs in technical institutes, community colleges and universities . (4) According to the ADA Council on Dental Education, there were 153 accredited programs in 1973. The 1972-73 Annual Report on Dental Auxiliary Education reports a total enrollment of 9,193 dental hygiene students for the 1972-73 academic year, of which 96 were males.

There were 29 programs for the dental hygiene student in the Northeast in 1972-73. In Connecticut, there were two programs at the Fones School of Dental Hygiene in Bridgeport, one two-year Associate degree, the other a four-year bachelor's degree program. The school currently graduates about 85 students a year, some half of whom are out-of-state residents.

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(Dental Hygienist cont'd)

The Connecticut State Dental Association is on record as "recognizing the need for more Dental Hygiene schools in Connecticut and supports the establishment of a Dental Hygiene program at Tunxis Regional Community College." The proximity of the college to the University of Connecticut School of Dental Medicine at the Health Center with clinical facilities and faculty available to it is a factor in this decision. The proposed program, undertaken in conjunction with Manchester Community College, is expected to become active this year, and utilizes the career ladder concept whereby a person who has completed a one-year dental assistant program may apply credits to the more advanced program.

DENTAL ASSISTANT

The Dental Assistant (Office) assists the dentist at chairside during examination and treatment of patients and records appropriate information. She may take, develop, and mount x-rays if state dental law permits.

The dental assistant may work in dentists' offices, dental clinics, hospitals, public health agencies, group practices, teaching institutions. The 1971 Survey of Dental Practice conducted by the American Dental Association indicated that 99,200 full-time, 25,300 part-time dental assistants were employed as of May, 1971. The survey showed that full-time dental assistants were employed by 79.2 percent of dentists responding, an added 21.8 percent of the dentists employed part-time assistants. In New England, 16.3 percent employed one assistant as compared with the 16.1 percent national average.(5)

In Connecticut, certification is available to the dental assistant through examination by the Certifying Board of the American Dental Assistants Association for CDA following one year or more of academic preparation. Licensure is not required.

As of September, 1971 there were 182 accredited dental assisting programs of one or two-year duration in technical institutes, community colleges or universities.(6) The ADA Council on Dental Education recorded an increase in accredited programs from 29 in 1961 to 218 in 1972. There were 32 programs in the Northeast; 23 programs graduated 558 persons and in Connecticut, three programs graduated 39 persons in 1970. There will be three new programs offered in Connecticut for the first time in 1974-75, at Briarwood School for Women, Manchester Community College, and South Central Community College.

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DENTAL LABORATORY TECHNICIAN

The Dental Laboratory Technician constructs and repairs complete or partial dentures, bridges, crowns, inlays, and other dental restoration according to the mouth impression and prescription prepared by the dentists. Appliances for straightening teeth are constructed and repaired.

The dental lab technician works in private (commercial) dental laboratories, hospitals, public health agencies, and dentists' offices. An estimated 33,500 dental lab technicians were employed in 1970; 7,500 worked full-time for individual dentists. One-fifth of the full-time technicians were women. (7) From 1950 to 1970, there was an estimated increase of 83 percent in the number of dental lab technicians. (8) Licensure is not required in this specialty.

A three-to-four year on-the-job training is customary; there are also one to two-year programs offered in community colleges. As of September, 1971, there wer 31 accredited dental lab technology programs of two-year duration in community colleges, technical institutes and universities.

In 1970, two programs in the Northeast graduated 35 dental laboratory technicians. The Annual Report on Dental Auxiliary Education in 1972-73 indicated three dental lab technology programs in the Northeast, one each in Massachusetts, New York and Pennsylvania which meet certification requirements of the Council on Dental Education.

In Connecticut the Eli Whitney Regional Vocational School offers a one-year certificate program credits for which will be applicable towards an Associate degree program to be offered at South Central Community College as of September 1974.

DENTAL AUXILIARIES

The greater use of what may be termed dental auxiliaries, including both dental hygienists and dental assistants, has been of active concern nationally and at the state level. Expansion of duties is the heart of this movement, with attendant attention to educational preparation.

The American Dental Association has passed a resolution urging state dental practice acts to be revised so that dentists may delegate duties. Some 35 states now permit selected expanded duties for dental hygienists and/or assistants, generally under the dentist's supervision.

In Connecticut, Public Act No. 73-399 - "An Act Concerning Dental Assistants" enacted in 1973 provides for two types of dental assistants - trained dental assistants and registered dental hygienists - to work under the supervision and control of a licensed dentist, i.e.: "a licensed dentist may delegate to trained assistants such dental procedures as he may deem advisable, but such procedures shall be performed under his supervision and control and he shall assume responsibility for such procedures..." There follow current restrictions on their performance.

Public Act No. 73-183 has permitted the development of "controlled investigations or innovative training programs related to the delivery of dental health services within accredited dental schools or schools of dental hygiene," (also) provided such programs are under the supervision of a licensed dentist or physician.

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(Dental Auxiliaries cont'd)

Nationally, the ADA has recommended the teaching of expanded function for dental hygienists and assistants. At its November 1973 annual session, the ADA adopted a resolution as follows:

"Resolved, that state dental associations, in cooperation with state dental auxiliary associations, dental and dental auxiliary schools and appropriate educational agencies develop in consultation with the Council on Dental Education, master plans for dental auxiliary programs using reliable data on manpower requirements and distribution supplied by the Council which will assure the most effective and economical use of financial, educational and professional resources required to sustain quality programs..." (9)

The Dental Auxiliary Utilization (DAU) Program teaching dental students to utilize dental auxiliaries efficiently was funded from 1961 to 1972 by Federal grants and was considered successful in promoting improved delivery of services through training in "four-handed dentistry." During the period of funding DAU programs were developed in all dental schools. The TEAM approach - Training in Expanded Auxiliary Management - to delivery is an outgrowth of this program and the concept is being encouraged by the DMDC.(10) It has been recognized that to have effective programs for dental students, the dental hygienist and the dental assistant must be available for a realistic clinical experience. The TEAM approach and an alternative coordinated affiliation between schools of dentistry and schools of dental auxiliary education are possible modes of action.

Dr. Charles R. Jerge, Dean of the School of Dental Medicine, University of Connecticut Health Center, suggests that dental medicine be practiced in concert: that there be a stable number of dentists of perhaps 100,000 or 1/2000 population; an increased number of practicing dental auxiliaries including dental assistants, dental hygienists, new categories of expanded duty auxiliary therapists, and dental technicians, six or seven per dentist; and an improved health care system in which the work force can be deployed as needed. He maintains that we are producing only a fraction of the numbers of auxiliary personnel needed and suggests a core curriculum through which dental assistant and dental hygienist education would be consolidated into a new dental nursing field.

It is considered by the Bureau of Health Manpower Education, Public Health Service, HEW, that the practice of four-handed dentistry alone would not increase dentists' productivity sufficiently to keep pace with the projected need and demand for dental care.

A University of Connecticut survey has estimated the need over the next ten years of health auxiliaries in the state. By 1976 it posited the need for 1,330 dental hygienists (140 a year) in addition to existing "manpower," 2,440 additional dental assistants (or 240 a year) and 548 additional dental laboratory technicians (55 each year). (11)

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DIETITIAN

The Dietitian directs and supervises hospital personnel concerned with planning, preparing and serving food to patients and staff. He or she may plan, organize and conduct dietetics educational programs for nurses, medical and dental interns, medical residents, dietetics interns and other personnel, and may also plan and direct the preparation of modified diets prescribed by medical staff for patients with therapeutic diet needs.

The dietitian works in hospitals, extended care facilities, nursing homes, public health agencies, schools, restaurants and in the armed forces. Of the 30,000 dietitians employed nationally in 1970 (including those working in private restaurants or firms with cafeterias), ninety percent were female; some two-fifths of them worked in hospitals. The number of male dietitians is on the increase; some 1,000 dietitians were employed by the Veterans Administration and the U.S. Public Health Services.(1)

In 1972, there were 23,500 members of the American Dietetic Association (ADA), of whom some 6,000 were unemployed. Nearly half of them were over 45; 320 of them were male. (2) In the Northeast, 3,400 members of the ADA were employed, 293 of them in Connecticut, in 1970. (3) 1973 data indicates 355 members of the Connecticut Dietetic Association were employed, 51 unemployed. (4)

National requirement for the dietitian: a Bachelor's degree with a major in foods or nutrition and/or institutional management. To become a registered dietitian, one must complete a two-year preplanned and approved internship following graduation. Connecticut requires a Bachelor's degree from an accredited program in dietetics including a one year internship. No licensure is required. 1972 data from ADA lists 21,000 registered dietitians· in Connecticut in 1973, there were 351 R.D.s. (5)

In the United States, the degree requirements may be filled at 400 educational institutions. (6) For academic and administrative positions, a graduate degree is usually required. Areas of specialization are: food administration, nutrition care, education and research.

Small institutions are sharing the services of the dietitian, who is also entering into self-employed practice as a consultant.

DIETETIC AIDE

The Dietetic Aide is a supportive person on a food service staff who works under the supervision of the dietitian and is also known as a food service worker. Supporting personnel are also known as dietetic assistants and dietetic technicians.

A two-year food management program is sponsored by the Connecticut State Department of Health; a two-year Associate degree program for the dietetic technician has been approved at South Central Community College.

Employers are increasingly hiring supportive workers.

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HEALTH EDUCATOR

The Health Educator plans, organizes and directs health education programs for group and community needs. He or she instructs and informs students and members of professional, service and official public agencies concerning possible solutions to health problems of individuals and the community at large, and also organizes and mobilizes voluntary as well as official organizations for the purpose of dealing with and arriving at practical solutions to health problems.

Health educators work in official and voluntary health agencies, local, state, national and international health-related organizations, high schools, colleges, universities, business and industry. In the hospital setting, where the use of health educators is increasing, the educator may work directly with persons under treatment.

Information on the health educator is divided between those working in public health education and school health education. An estimated two-to-three thousand educators work in public health, 20,000 in school health programs. (1) Most public health educators are employed by voluntary agencies.

Licensure is not required for the health educator as such, but licensure is required for teachers by the state. Minimum educational requirement for the public health educator is a baccalaureate degree in community health education for an accredited institution. In 1969-70, 160 students received their Master's degree in public health education. (2) The school health educator requires four years of college; a Master's degree in health education is being increasingly required.

In Connecticut, there are graduate programs for public health education at Yale University, which offers a two year program leading to an M.P.H., and for school health educators at the University of Connecticut. The Yale program graduates eight to twelve persons per year; 65 percent of these graduates find employment in the Eastern corridor although no manpower positions in Connecticut were known to Dr. Lowell Levin of the Yale University School of Epidemiology and Public Health at the time of reference, raising a question as to whether it is "overpopulated or uncommunicative" in his mind.(3)

Four year programs leading to a Bachelor's degree are offered at Southern Connecticut State College and Western Connecticut State College. Programs in Dental Hygiene Education and Nurse Teacher Education are offered at the University of Bridgeport and Central Connecticut State College respectively.

The definition, establishment and expansion of this profession is being actively pursued at the present time. The National Commission on Health Education 1972-73 Report to the President recommended the establishment of a health education focal point in the Department of Health, Education and Welfare, and the creation of a nonprofit National Center for Health Education. The Society for Public Health Education, Inc. published a position paper on November 4, 1973 and presented it to the President in support of a national health education program that would include patient education as a reimbursable service under Medicare, Medicaid and other health insurance programs. (4)

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The University of North Carolina task force on future health manpower needs predicts one of the largest increases for professionals with Master's level training (or more) will be the demand for health educators. According to their study, schools of public health would have to increase the output of health educators from 200 to 500 by the year 1980.(5)

TEACHER (SPECIAL EDUCATION)

The Teacher of Special Education instructs or supervises instruction of physically, emotionally, perceptually or intellectually handicapped or exceptionally gifted children. He or she may work in public or private schools, residential treatment facilities, hospitals, day-care centers or guidance clinics.

In Connecticut's public schools for the 1972-73 school year, 30.6 teachers and 7.5 supervisors were engaged in instructing pre-school-age children, 1,756.6 teachers and 69.0 supervisors in instructing school-age children, according to the State Department of Education. Some six percent of the total enrolled student population, or 42,000 individuals, are reported by the Department as being served by special education teachers. A high of 28 percent are serving the mentally retarded, a low of two percent the gifted and talented, or partially sighted.(6)

Licensure is required and special certification mandatory for anyone employed as a teacher of handicapped children. Certification covers teaching on the elementary or secondary level, according to preparation. Provisional certification is available; for standard or permanent certification, educational requirements call for completion of an approved college program, including student teaching, and an additional 30 credits at the graduate level or a Master's degree.(7)

A study by the Connecticut State Department of Education of projected needs for public schools, as reported by Joseph Gordon, Assistant Chief, Pupil Personnel and Special Education Services, State Board of Education, indicates the need for 155 more educational (not clinical) psychologists, 706 school counselors, 650 persons with a Master's degree in social work, 215 speech pathologists and audiologists. There are five undergraduate and six graduate programs in the state for this profession.

MENTAL HEALTH EDUCATOR

An emerging occupation reported by the State Department of Mental Health is that of Mental Health Educator. Only recently recognized as a specific occupation, its job functions were previously carried out by persons such as psychologists and public information officers.

The mental health educator as such was recognized in October, 1972 when the Connecticut State Personnel Board approved the establishment of Mental Health Educator as a new job specification. The mental health educator is officially recognized through job title in Massachusetts and New York.

CHILD CARE WORKER

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The Child Care Worker, under supervision of teachers or senior workers, implements basic techniques of child care in nursery and day-care centers, pre-school programs. There are eight Associate degree programs in Connecticut for the child care worker.

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ENVIRONMENTAL HEALTH TECHNOLOGIST

The Environmental Health Technologist performs investigations in areas of pollution control, sanitary inspections, water treatment and other aspects of environmental health. He or she may also be charged with the responsibility of conserving the environment and enforcing certain minimum standards with regard to environmental control.

The environmental health technologist works in local, state, federal public health and environmental protection agencies; industrial concerns, agricultural agencies, colleges and research facilities.

In this fast developing profession, it is estimated that there will be an increasing demand for environmental health technologists and technicians. Quinnipiac College, Department of Biological Sciences, School of Allied Health and Natural Sciences, estimates that there will be 100,000 environmental health personnel in 1975 with a need for 170,000; 120,000 in 1980 with a need for 205,000 - i.e., a deficit of up to 40 percent. They posit that "new and expanded specialized educational programs could significantly increase the future supply of professionals, perhaps by as much as 25 percent at the baccalaureate level."(1)

Public Health Service statistics also indicate a shortage of Bachelor's and Associate degree earners (55,000 Bachelor level and 15,000 Associate degree level in 1975: 65,000 Bachelor level and 20,000 Associate degree level in 1980). The use of military preventive medicine specialists and technicians to alleviate this situation has been suggested. (2)

Education programs presently available in the field include certificates, Associate degree, Bachelor's and graduate level training. Requirements depend upon the employer. For the purposes of the present survey, the technologist is defined as the holder of a baccalaureate degree.

The registered sanitarian ("a person trained in environmental health who is qualified to carry out educational and investigational duties in the fields of environmental health such as investigation of air, water, sewage, foodstuffs, housing and refuse by observing, sampling, testing and reporting" - according to the Board of Registration) must be twenty-one years of age or more and hold a degree from an accredited college or university following four years of study and have two years of experience or have successfully completed a board approved training course in environmental health. There were approximately 12,000 sanitarians in 1970. (3) There were 190 registered sanitarians in active practice in Connecticut in 1970.

Forty-three of the 1,700 national members of the American Industrial Hygiene Association are in Connecticut.

A member of the Vocational Training and Development Committee of the Connecticut Business and Industry Association (CBIA) has noted that many industries have one person operating in the area of overall pollution control who calls upon specialists as needed to meet problems and has

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commented on the need for continuing education for both technicians and professionals. A recent CBIA survey on Environmental Management Manpower noted that the most significant demands for personnel in the next three to five years will be related to those who have either a one-year technical certificate or two-year Associate degree, i.e., the technician level worker.

There is a great deal of developmental activity in the educational programming for environmental health technicians and technologists at the present time. There are at present two courses available to the environmental health technologist in Connecticut, both undergraduate programs. They are located at Quinnipiac College and the University of New Haven. (A Master's degree program in Environmental Health Science is also offered at Yale University Department of Epidemiology and Public Health.)

ENVIRONMENTAL HEALTH TECHNICIAN

The Environmental Health Technician works under supervision on technical aspects of pollution control, sanitary inspections, water treatment, and other aspects of environmental health. He is specified here as the holder of an Associate degree. There are currently 18 programs in the Northeast available for the study of this occupation, three of them in Connecticut, located at Northwestern Connecticut Community College, Norwalk State Technical College, and Middlesex Community College.

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MEDICAL TECHNOLOGIST

The Medical Technologist performs various chemical, microscopic, and bacteriologic tests to obtain data for use in diagnosis and treatment of disease. He or she may interpret and validate results, correct technical problems, supervise and instruct other laboratory personnel.

The medical technologist works in commercial, hospital and extended care facility laboratories, public health laboratories, colleges, research facilities and pharmaceutical firms. Four-fifths of all laboratory workers including medical technologists work in hospitals.

In February 1972, there were about 65,000 medical technologists certified by the American Society of Clinical Pathologists (ASCP), of whom 45,000 were working full or part time; in addition, there are an estimated 10-to-15,000 college graduates not certified by the ASCP who are working as medical technologists. (1) In the Northeast as of February 1973 there were 10,641 full-time equivalent budgeted positions for clinical laborary technologists in hospitals. (2) Hospital size rather than educational or clinical preparation determines the work repertoire of the laboratory personnel.(3)

The basic educational requirement for the medical technologist is a baccalaureate degree with specialized study in an AMA approved training program. Aside from offering certification for the medical technologist as such, the ASCP offers specialized certification in such fields as hematology. Licensure is not required in Connecticut or most other states, but New York does require licensure.

In July, 1972, there were a total of 754 AMA approved programs for medical technologists with a total of 8,685 students enrolled in the clinical section of the program. During 1971, 5,367 students graduated from such programs.(4) There are some 127 programs in the Northeast, nine programs for advanced degrees, in medical technology. In Connecticut, seven educational institutions offer the didactic portion of the program with twelve hospitals offering the clinical portion. (5)

Proficiency and equivalency examinations are currently being developed for medical technologists and other laboratory personnel.

MEDICAL LABORATORY TECHNICIAN

The Medical Laboratory Technician conducts routine tests in clinical laboratories for use in treatment and diagnosis of disease, performs related duties and recognizes when a problem arises. Supervision is provided by a medical technologist or a physician.

In the Northeast, 86 programs are available to the medical lab technician; three are in Connecticut. Two of these are Associate degree programs and one is an apprenticeship. (6)

Associate degree programs for the medical lab technician are offered in community colleges. This occupation is considered an"intermediate level on the laboratory career ladder." Junior colleges are encouraged to provide for upward mobility of students by granting advanced standing on the basis of transfer credits or equivalency examination and by seeking to insure transferability of credits earned.

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CERTIFIED LABORATORY ASSISTANT

The Certified Laboratory Assistant, formerly known as the Medical Laboratory Assistant, works under the supervision of a medical technologist or physician and assists in performing chemical bacteriologic, serologic and other tests devised to assist in the identification and diagnosis of disease.

In July 1972, there were 192 AMA-approved programs for certified lab assistants. During 1971, 1,969 students successfully completed approved educational programs. According to the Registry of Medical Technologists, 7,928 persons are registered as CLAs. (7) The course is 12 months in length with both classroom and laboratory components.

In the Northeast, there are 48 programs for CLAs; the four in Connecticut are located in hospitals. (8)

CYTOTECHNOLOGIST

The Cytotechnologist stains, mounts and studies cells of the human body to detect evidence of cancer or other pathological condition. He or she may be trained in cytogenetics to detect chromosome abnormalities and provides the physician with information needed for diagnosis.

The educational requirement to practice is two years of college plus 12 months of professional education in an approved school. There are 120 AMA-approved schools of cytotechnology. During 1971, approximately 340 students completed such courses.(9) There are 28 programs in the Northeast, three in Connecticut for cytotechnologists. (10)

In January 1972, there were approximately 3,500 certified and 1,000 uncertified cytotechnologists. Cytotechnologists screen "Pap" smears as well as helping to detect other forms of cancer and as these services grow so will the need for attendant manpower.

HISTOLOGIC TECHNICIAN

The Histologic Technician prepares tissue specimens for microscopic examination by the pathologist and performs chemical treatment, slicing, mounting, labeling and tissue file maintenance.

A one-or-two year post-high school course plus a minimum of a six months training period or a high school diploma plus 12 months of formal training in a clinical pathology laboratory course are educational alternatives for preparation for registration by examination (ASCP). As of February 1972, there were 5,468 registrants. (11)

Northeast data indicated eight programs; AMA-approved programs in the area number five as of 1973. None of these are in Connecticut. (12)

NUCLEAR MEDICINE TECHNOLOGIST

See under Radiology, p.36.

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MEDICAL ENGINEERING

BIOMEDICAL ENGINEER

The Biomedical Engineer may be involved in 1) research of biological systems and functions for better diagnosis and treatment; 2) the development of new instruments for use in medical or surgical care or in research, 3) the design and development of life supporting devices such as heart-lung machines, pacemakers, artifical limbs, and 4) the adaptation of computer systems for medical use such as cardiac monitors. He or she may work in hospitals, research foundations, medical, academic, industrial or government laboratories as well as outer space and under the sea.

In 1970, most of the estimated 3,000 biomedical engineers were teaching and doing research in colleges and universities. Some were employed by the Federal government, primarily in the National Aeronautics and Space Administration. Some work in state institutions and a growing number are employed in private industry to develop new apparatus and processes and techniques; some are in sales related positions. (1)

In the past, biomedical engineers were drawn from those trained in established engineering disciplines - electrical, mechanical, chemical, civil and the like. Training for this specialty is in the process of development at both the undergraduate and graduate level. Some universities have already set up specialized courses and more are being planned. A Master's program is available at the Rensselaer Polytechnic Institute.

The biomedical engineer may hold a Master's or Ph.D. degree. Suggested studies for this pursuit include biology, physiology, biochemistry or the biophysical sciences generally.(2)

MEDICAL RECORDS

MEDICAL RECORDS ADMINISTRATOR (LIBRARIAN)

The Medical Records Librarian, now known as the Medical Records Administrator, supervises and coordinates activities of personnel engaged in analyzing, compiling, coding, indexing and filing permanent medical records of patients. He or she assists medical staff in research, prepares periodic and statistical reports, and provides information to authorized persons. The medical record librarian designs systems and methods to make data more accessible, and brings unusual or interesting material to the attention of the medical staff. He or she may work in hospitals, extended care facilities, nursing homes, outpatient treatment facilities, state and local health departments, community health centers regional medical programs, and rehabilitation centers.

About 13,000 medical record librarians were employed in 1970 in the United States, most of them women and most in hospitals. Of these, about 4,200 were registered.(1) Licensure is not required. National registration examination leads to the designation of Registered Record Administrator (RRA). (The former designation was Registered Record Librarian). In addition, there were approximately 40,000 medical record personnel working in the field.(2)

During 1972, approximately 270 students were graduated from schools approved by the American Medical Association which offered training in medical record library science or medical record administration.(3) Programs are either incorporated into a four-year degree program or are a one-year post-baccalaureate course leading to a certificate. In the Northeast, there are eight programs in Massachusetts, New Hampshire, New York and Pennsylvania offering two and four-year programs pre-

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(Medical Records Administrator, Cont'd.)

requiring two years of college or four years of high school, respectively. There are no such programs at present in Maine, Vermont, Rhode Island or New Jersey, nor is there one in Connecticut.(4)

The American Medical Records Association has stated its belief that a minimum of one university medical center program for medical record administration and one or two junior college programs for medical record technicians are needed in well populated states which have a number of medical care institutions.

MEDICAL RECORDS TECHNICIAN

The Medical Records Technician prepares statistical reports, codes diseases and operations according to accepted classification, maintains indexes according to established plans and procedures, and takes records to court. He or she handles requests for information, carries out routines of follow-up systems for patient care and may tabulate simple data for research and stucy.

The medical records technician may work in a hospital, extended care facility, nursing home, outpatient treatment facility or public health agency such as the visiting nurses' associations. About 3,800 accredited record technicians were employed in the nation in 1970.(5) Of the 4,410 persons who have successfully completed exams for accreditation since 1955, some 3,000 have done so in the past three years.(6) Programs available to the person who wants to become a medical records technician are a two-year academic program leading to an Associate degree, nine to ten-month hospital-based programs, and an American Medical Records Association correspondence course for high school graduates currently employed in medical record work.

There were about 40 AMA accredited schools for MRTs in 1972, the majority two-year Associate degree programs. During 1972, approximately 389 students were graduated from such programs.(7) There are no present programs in Maine, New Hampshire, Rhode Island or Vermont. Four programs are available in Massachusetts, one in New Jersey, five in New York, and two in Pennsylvania. There is a new program for the MRT at the Greater Hartford Community College.

MEDICAL TRANSCRIPTIONIST

The Medical Transcriptionist transcribes reports concerning physical examinations, diagnostic tests, and other medical procedures. He or she is responsible to the medical records administrator, librarian, or supervisor.

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REGISTERED NURSE

The Registered Nurse renders professional nursing care to patients in support of medical care as directed by the physician. She maintains patients' medical records on nursing observations and actions; observes the emotional stability of patients, expresses interest in their progress and prepares them for continuing care after discharge.

The nurse may work in hospitals, extended care facilities, nursing homes, public health agencies, physicians' offices, homes, mental health centers, schools, day care centers, business organizations and industry. Within the hospital setting, opportunities to work in such specialized areas as the coronary care unit, intensive care unit, emergency room, Ob-Gyn, pediatric,medical or psychiatric unit are available to the nurse.

In 1970, 1,700,000 persons were engaged in professional nursing and allied nursing occupations. An estimated 700,000 registered nurses were employed in the United States, more than one-fourth on a part-time basis, some 99 percent of them female. (1) More recent figures, for 1973, indicate that nurses are practicing in the United States at a nurse-population ratio of 317 per 100,000. (2)

A license is required to practice as an R.N. in all state and the District of Columbia. Required for licensure: graduation from a school approved by a State board of nursing and passage of the State board examination. Of the number of R.N.s licensed in Connecticut, 21,408 are active, 14,185 inactive. (3)

Three types of basic education are available to the nurse aspirant: a three-year post-highschool hospital based program leading to a diploma; a two-year community college program including academic and clinical experience and leading to an Associate degree, and a four year college program with heavier stress on academics, leading to a B.S. degree and preparing graduates for general duty staff nursing, beginning positions in public health agencies, advancement to supervisory and administrative work in nursing, and for graduate study.

Some 1,363 such nursing programs leading to R.N. licensure were conducted by 1,350 schools of nursing as of October 1971. (4) In the year previous to that date, six nursing programs were approved, 18 were closed in the Northeast. (5) In 1970, in the Northeast, 412 programs graduated 14,328 persons; in Connecticut 24 programs graduated 688 persons. (6) There are two Master's programs (at the University of Connecticut and Yale University); there is no Ph.D. program in nursing at present in the state.

Continuing "non-credit carrying" courses are given in hospital settings and educational institutions. Post-basic or graduate education is required for such specialties as nurse midwifery, nurse anesthetist,pediatric nurse associate and adult nurse practitioner. There is a thrust toward acquiring further education on the part of the R.N.; as the main means to career advancement and recognition. That the role of the nurse is changing is indicated by the New York State Legislature's official redefinition of nursing to include such words as "diagnosing," "treating" and "counseling" in addition to "carrying out the doctor's orders." Independent practice is legal in that state.

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INDUSTRIAL NURSE

The Industrial or Occupational Health Nurse applies nursing principles in conserving the health of workers of all occupations. Her work involves the prevention, recognition and treatment of illness and injury and requires special skills and knowledge in the fields of health education and counseling, environmental health, rehabilitation and human relations.

There are about 20,000 nurses in industry, and there is a concern in the occupation with continuing education programs. Of the 4,000 plus continuing education courses recently identified for nurses, only 48 (1.1%) are labeled as occupational health. Mary K. Sanford, president of the Connecticut Association of Industrial Nurses, points out that "there is not a shortage of nurses. In my opinion, there has been a shortage of foresight in keeping skills upgraded and knowledge and learning opportunities made available by existing institutions."

NURSE MIDWIFE

The Nurse Midwife is a registered nurse who by virtue of her added knowledge and skill gained through an organized program of study and clinical experience recognized by the American College of Nurse-Midwives has extended the limits of her practice into the area of management of care of mothers and babies throughout the maternity cycle so long as progress meets criteria accepted as normal. She cares for normal obstetrical patients in association with the physician, providing pre and post-natal care and patient education and attends home delivery. (7)

The Nurse Midwife serves in medical centers, satellite clinics, public health programs, departments of health, Ob-Gyn practice. Of some 1,256 nurse-midwives known to the American College of Nurse Midwives, 816 responded to their data survey in 1971. Of these, 731 were employed; 51 of these were located in New England. Sixty-nine percent were 45 years of age or under; with a median age of 39; 61 percent were single (including 46 Catholic sisters) with no recognized attrition for married women; ten percent worked in some aspect of foreign service. (8) Of the 1,000 certified nurse midwives, there is one male nurse-midwife (graduate of Yale University, employed by the University of Connecticut); there is one male student enrolled at the University of Utah. (9)

In Connecticut, there are approximately 25 ACNM members, all but one female, all but one practicing or teaching in New Haven area. (10) Licensure is required spottily for practice in the United States: New York City is one area requiring licensure. Connecticut does not require licensure; the nurse midwife practices under the Nurse Practice Act.

Certification following examination by the ACNM is available to those who have completed one of two programs: a post R.N. program consisting of approximately eight months of intensive theory and clinical experience or a Master's degree program from 12 to 24 months in length. Sixteen institutions in the United States and Puerto Rico offer basic education programs, internship and refresher courses in nurse midwifery. (11) Four of these are in New York; in Connecticut the Master's degree program at Yale University has 10 first year students and three second year students who will graduate in June. (12)

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PEDIATRIC NURSE ASSOCIATE/ PEDIATRIC NURSE PRACTITIONER

The Pediatric Nurse Associate or Pediatric Nurse Practitioner works in association with physicians and other professionals to provide primary health care for children, including physical examination, assessment of growth and development, immunizations, management of minor illnesses and counseling of parents. The emphasis is on health maintenance in well children, in some settings, in children with chronic diseases. Within legal bounds of the Nurse Practice Act, the pediatric nurse functions independently, and is usually responsible for her own case load of families, referring to physicians for acute care or consultation.

The pediatric nurse associate works in ambulatory child health services: hospital outpatient departments, agency clinics, private pediatric practices and store front clinics. There are approximately 30 in Connecticut, most in clinic settings. In some states, nurse practitioners are functioning in rural and suburban areas, usually with a public health nursing agency, with a physician accessible by phone, not necessarily on-site.

All nurse practitioners are licensed registered nurses. Standards for certification of programs are in the planning stages on national and state levels. At present, graduates receive certificates from individual programs indicating completion of a specific course. There are approximately 50 programs in pediatric ambulatory care in the nation. In the Northeast, there are programs at the Northeastern University College of Nursing, the University of Rochester and the University of Maine; in Connecticut a four month certificate program for the PNA at University of Connecticut and a program leading to an M.S. in Pediatric Nursing at Yale are in operation.

In this emerging occupation, concerns center about the need for public awareness of the nurse practitioner as provider of primary health care for children, for job specifications and salary (or in some private practices, profit-sharing).(13)

OTHER R.N. SPECIALTIES

Adult Nurse Practitioner-a registered nurse with nine months of post-graduate training, who works with the physician by performing complete histories and physicals. The adult nurse practitioner makes decisions regarding treatment and follows patients with long-term, noncritical types of illness.

Nurse practitioners and nurse clinicians are currently being trained in Veterans Administration hospitals as well as colleges and universities. A pilot program currently in progress at Hartford Hospital in Adult Medicine Ambulatory Care Nurse Practitioner graduated its first four graduates in 1973.

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Nurse Anesthetist- a registered nurse who has post-graduate training of a formal nature in a recognized program which provides him (or her) with specialized skills in anesthesiology. This specialty requires state licensure; the nurse anesthetist is registered as a specialist. There are 30 programs in the Northeast, and six programs in hospitals for nurse anesthetists in the state.

LICENSED PRACTICAL NURSE

The Licensed Practical Nurse performs a wide variety of patient care activities and accommodative services for assigned patients, as directed by a registered nurse or physician. She works in hospitals, extended care facilities, nursing homes, physicians' offices, outpatient facilities, mental health facilities, public health agencies.

Some 400,000 LPNs were employed as of January 1, 1971, an increase over the previous year of 30,000 according to the Public Health Service Division of Nursing estimates. (14) Three-fifths of these worked in hospitals; the great majority were female. There is increasing demand for men as LPNs especially in the areas of psychiatric and rehabilitation nursing. In 1970-71, there were 4,386 LPNs in Connecticut, 3,549 of them active. (15) As indicated by their name, LPNs are required to hold state licenses to practice; in Connecticut, in 1972, 698 practical nurse graduates received licenses through the Connecticut Board of Examiners of Nursing.

As of October, 1971, there were some 1,210 schools conducting 1,291 LPN programs in the United States and its legal jurisdictions, usually of one-year duration. (16) About half of these were offered by public schools; other programs were available at community colleges, local hospitals, health agencies and private educational institutions. National education requirements to enter LPN training vary from two years of high school to graduation from secondary schools.

In 1970, there were 263 programs in the Northeast from which 8,659 persons graduated. Between October 16, 1970 and October 13, 1971, the National League for Nursing recorded the opening of eleven new schools in the Northeast, while 12 closed(none in Connecticut). (17)

In 1970, 558 persons graduated from ten one-year LPN programs in Connecticut. These programs were located in state regional vocational-technical schools and offered eight months of clinical experience combined with classroom, and four months of classroom work. This is in line with the requirement that the LPN hold a highschool diploma and be a graduate of an accredited one-year practical nurse training program conducted by the Connecticut State Department of Education. Public Act 142, passed in 1972 to permit LPN courses to be offered in secondary schools, has not been implemented to date.

Career mobility and recognition for previously attained knowledge and skills for the LPN who wants to continue her education or advance professionally, are current considerations.

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NURSING AIDE

The Nursing Aide performs various patient care activities and related services necessary in caring for the personal needs and comfort of patients, under supervision of a registered nurse or other staff. She works in hospitals, extended care facilities, nursing homes, rehabilitation centers, physicians' offices, public health agencies, out-patient facilities. She may also serve as a homemaker health aide in a home setting for patients who would otherwise require hospitalization.

An estimated 830,000 hospital attendants were employed in 1970, four-fifths of them female. (18) Women attendants are generally known as nursing aides, according to the Department of Labor. Of the 229 students in Connecticut available for employment in 1972, 126 or 55 percent were employed in occupations for which they trained or related. (19)

No license is required for the nursing aide. There are currently 45 nursing assistant courses offered in Connecticut public schools which are partially reimbursed by the State Department of Education and serve more than 750 students. Many hospitals in the state and some extended care facilities give nurses aide courses for employees as the need arises.

Guidelines for nurses' aide programs developed by the Connecticut Board of Nursing Examiners, the Health Department, Connecticut Nursing Association and the Department of Vocational Education required specified studies in high school and specify that "the total hours of classroom teaching, lecture, demonstration and returned demonstration and supervised practice on- the-job should total between 150-180 hours extending over a 5-6 week period of time...It is suggested that the number of class hours, including return demonstration be between 120-150 hours with provision being made for supervised work experience of at least 60 hours. The latter may need to be increasd, dependent on the trainee." (20)

An articulation study on the nursing aide, licensed practical nurse and Associate degree nurse prepared by the Connecticut Institute for Health Manpower Resources for the State Department of Education has recommended standard setting for the education of the nursing aide and the "Maxwell model" approach to career ladder education. (21)

PSYCHIATRIC AIDE

The Psychiatric Aide, under supervision and as a member of a treatment team, provides physical and psychological care to acutely or chronically ill and emotionally disturbed patients. He or she works in a psychiatric hospital, psychiatric unit of general hospital, community mental health center, half-way house, partial hospitalization facility, out-patient treatment service, sheltered workshop or appropriately licensed nursing home. According to a survey by the Public Health Service and the American Hospital Association, there were 141,000 persons working in mental institutions as psychiatric aides in 1968. (22)

The psychiatric aide is required to hold a license to practice in Arkansas, California and

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(Psychiatric Aide cont'd)

Michigan. While not all hospital aides have graduated from secondary school and some are younger, persons with a high school education and in their mid-twenties are preferred for psychiatric aide work. Training is generally carried out on the job. Courses in home nursing and first aid offered by many school systems and other community agencies, volunteer work and summer jobs are of training help.

CHILD TECHNICIAN

The Child Technician works in newborn services and in a capacity in pediatrics under nursing staff supervision. Educational requirement: one year post-high school training period.

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MEDICAL OFFICE ASSISTANT

The Medical Office Assistant performs simple tasks to assist the physician in office procedures, such as: interviewing patients, checking pulse, blood pressure, weight and height, sterilizing and cleaning instruments, preparing treatment rooms, operating simple equipment and giving treatments, assisting in the laboratory. She may also schedule appointments, keep records and receive money for bills.

The medical office assistant works in physicians' offices, also in hospitals and clinics. The Occupational Outlook Handbook records 175,000 medical office assistants at work in 1970, almost all of them women.(1) The HRS reports a higher number, between 200,000 and 300,000 for this year.(2)

The American Association of Medical Assistants, (AAMA) surveying a sample of its membership in August, 1971, found that 98.5 percent of medical assistants are women: 33 percent fell in the 41-50 year old category. Ninety-five percent were full-time employees, 64 percent were still employed by their first employer for an average of ten years. Sixty-eight percent of those surveyed work in an administrative capacity, 19 percent are engaged in clinical work, 13 percent spend an equal portion of their time in both administrative and clinical work. Twenty-eight percent have taken adult education course or courses, 15 percent a registered nurse's program.(3) AAMA has approximately 14,000 members nationally, 145 in the state.

Licensure is not required to perform medical assistant duties; certification is available through the AAMA - certification may be in administrative or clinical capacity or both with appropriate attendant course requirements. The national certification program may be part of the college program or follow it. Some 356 medical assistants successfully completed the certification examination administered in June 1973. Of these, 119 will receive administrative certificates, 131 clinical certification, 106 passed the exam in both categories. Examinations are given regionally by demand.(4) Certification is also available by examination for highschool graduates with one years' experience in the field or an Associate degree.

There are one-and-two year courses in medical assisting. Whereas formerly on-the-job training was prevalent, there is an increasing tendency toward formal education, with particulars of office routine learned on-the-job. Most persons in the field have an Associate degree in medical assisting or secretarial studies. A minimum of two years, for which highschool graduation is a prerequisite, include courses in anatomy and physiology, medical terminology, medical law, ethics, psychology, administrative and clinical procedures, laboratory orientation, humanities and social sciences. Students also receive clinical experience in qualified physicians' offices or accredited hospitals.

Curriculum standards approved July, 1971 by the Council on Medical Education of the AMA enabled all educational institutions to apply for AMA - AAMA approval, permitted one year courses and medical specialty courses within the two year program.

As of July 1971, there were twelve two-year Associate degree programs in the nation approved by

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the American Medical Association, five in the Northeast, the nearest to Connecticut being at the Springfield Technical Community College.(5) The September/October 1973 issue of The Professional Medical Assistant reported that eight educational programs in medical assisting had recently received accreditation from the AMA Council on Medical Education, bringing the total number of such programs to 52. One newly accredited program was in Maine, one in New Jersey and one in Pennsylvania.(6) In Connecticut, two courses, one for Medical Assistant and Executive Medical Assistant, are being given at Briarwood School for Women.

MEDICAL SECRETARY

The Medical Secretary prepares case histories, medical records and reports; utilizes knowledge of medical terminology, and performs general clerical work to relieve medical, professional and technical personnel of minor administrative and business detail.

There are thirteen programs, twelve of them two-year courses, available to the medical secretarial student in Connecticut.

The duties of the medical secretary and the medical assistant overlap; frequently qualified young women assume the responsibilities of both. The medical assistant may incorporate duties otherwise performed by the medical secretary, who may herself fulfill the role of administrative medical assistant. The AAMA membership includes medical assistants, secretaries, nurses, technicians, bookkeepers or receptionists in a physician's office or other medical facility. There is a present effort to upgrade and define the qualifications and role of the medical assistant as indicated by the 1972 AMA-AAMA educational requirements written with a view to certification. At this time only two persons are known to be certified in the state.(7)

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PHARMACIST

The Pharmacist compounds and dispenses medications and other pharmaceutical supplies, using standard physical and chemical procedures to fill written prescriptions issued by physicians, dentists and other qualified prescribers. He or she may work in a commercial or hospital pharmacy, public health agency, pharmaceutical manufacturing and research firms.

1973 Licensure, Statistics, Census indicate that of the 130,745 pharmacists active in the United States in 1971, about 107,363 practiced in community pharmacies, (45,723 as owners or partners, 61,640 as employees) about 13,000 in hospitals, 5,000 as manufacturers and wholesalers, and the remainder as teachers in colleges of pharmacy, in goverment or other areas. In New England, 22,921 pharmacists were in active practice. In Northeast, 28,173 pharmacists were in active practice. (1)

In Connecticut, there were 2,558 persons holding a license, with 2,175 in active practice. Licensure is required in all states for the practice of pharmacy. Connecticut requires that the applicant for licensure be a graduate of a five-year training program in an accredited school of pharmacy with at least one year of practical experience. (Persons who have practiced with the license of assistant pharmacist for a period of ten years, including active practice over the past three years, are also eligible for the examination.)

A little more than seven out of ten pharmacists have four to six years of post-high-school education at this time in the nation. (Educational arrangements include a six-year course leading to a Pharm.D., three to four years post pre-pharmacologic studies (usually emphasizing math and basic sciences) in accredited community colleges and universities. In 1971, there were 72 accredited colleges of pharmacy in the nation with 4,771 graduates. (2) Some 883 students graduated from 16 schools in the Northeast in 1971.(3)

In Connecticut, the University of Connecticut graduated 257 pharmacologists in the past four years (1970-1973). There were 554 enrolled in a five year program, 178 of them female. The University of Connecticut School of Pharmacy has conducted a program of continuing education on a "mini-basis" for a number of years and is currently strengthening the program. There is some talk of making such study mandatory for licensure renewal; New Jersey has such a mandatory continuing education requirement.

Maldistribution is a problem in this profession; in New England, pharmacists are concentrated in the southern, urban half of the area, while the northern tier has a paucity of their services. Connecticut ranks fifth in the United States for registered pharmacists per 100,000 population, Vermont forty-fifth. In the Northeast, Pennsylvania ranks a high third, New Jersey seventh, New York twenty-four.(4)

The growing number of women students and practitioners poses a question of utilization in the field, since it is estimated that her male counterpart will contribute 40 years to the profession while she will function in the job force for 22 years. Whether the tendency for women to work longer today will balance this effect or whether there is still a signi-

(Pharmacist cont'd)

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ficant difference created by more women in the field remains a question.

PHARMACY ASSISTANT

The Pharmacy Assistant currently receives only on-the-job training; it has been suggested by the Dean of the University of Connecticut School of Pharmacy that Connecticut could have a two-year program incorporating formal education with on-the-job training.

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PHYSICIAN'S ASSISTANT/PHYSICIAN'S ASSOCIATE

The Physician's Assistant is a skilled person, qualified by academic and clinical training, to provide patient services under the supervision and responsibility of a physician. The academic background for this emerging occupation varies, as does the definition of it. The most generally accepted definitions are those introduced in May, 1970 by the National Academy of Sciences, which classify the physician assistant in three categories: The Type A Assistant has the ability to integrate and interpret findings on the basis of general medical knowledge and to exercise a degree of independent judgment; Type B Assistant possesses exceptional skills in one clinical specialty, or, more commonly in certain procedures within a specialty; Type C Assistant is capable of performing a variety of tasks over the whole range of medical care, but does not possess the medical knowledge necessary to integrate and interpret findings(and is likened to medicine, what the practical nurse is to nursing).(1)

Early in 1971, the U.S. Civil Service Commission announced the establishment of the physician's assistant as a new occupation within the Federal service with concommitant qualification standards.

The physician's assistant program was launched at Duke University in 1965. Since the inception of the Duke program, others such as the Medex program also geared to utilize the skills of ex-medical corpsmen, and nurse practitioner programs have developed. The Duke program, a 24-month program with nine months of didactic and 15 months of clinical training, was originally aimed at the primary care practitioner, but was expanded to provide physician assistants for specialized disciplines such as pathology.

The Medex program, first administered by the University of Washington in collaboration with the State Medical Society, recruits former servicemen educated in the Medical Corps and offers three months of didactic training, and a 12-to-15 month preceptorship. This concept has been replicated in five states including New Hampshire.(2)

As of November 1973, programs for assistants to the primary care physician were offered in 33 states and the District of Columbia. Specialty P.A. programs were available in 17 states and the District of Columbia, four of them in the Northeast.(3) Specialties included pathologist's assistant, surgeon's assistant, orthopedic physician's assistant, obstetric associate, anesthesia assistant or associate, nuclear medical technologist, child health associate.

While as of the reporting for The Physician's Assistant Today and Tomorrow published in 1972, only 200 P.A.s had been graduated from existing programs,(4) as of October 1972, HEW reported 1,430 students enrolled in the programs supported by the 37 contracts and grants amounting to $6 million awarded to schools in 26 states and the District of Columbia, for the first year of a new program to train physician's assistants in primary care. Dartmouth, New Hampshire Medical School received the largest grant ($327,412) to train physician's assistants for service in rural areas of New England.(5)

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(Physician's Assistant/Physician's Associate,Cont'd.)

In Connecticut, Yale University offers a two-year course which combines nine months academic and 15 months clinical training and leads to a certificate. Two years of college or previous medical experience is preferred for admission to the program. Educational requirements for this field are still in flux, weighing toward clinical experience in university-affiliated or university teaching hospitals.

Sixteen states including Connecticut have given the physician the legal right to delegate routine patient care functions to qualified non-physicians. In Connecticut, Public Act No. 717, enacted in 1971, "An act concerning assistants to physicians and surgeons," authorizes the delegation by physicians of functions normally performed by them, to allied health personnel known as "physician's trained assistant, a registered nurse, or a licensed practical nurse, if such service is rendered under the supervision, control and responsibility of a licensed physician."

The physician's assistant is a very new occupation and questions to be answered regarding it include (1) legal status, (2) patient acceptance, (3) physician acceptance, and (4) relationship with nurses and allied health workers. The American Medical Association has encouraged a moratorium on licensure since roles and responsibilities of many allied health workers including the P.A. are in a state of flux. They feel that licensure tends to rigidify the system and have set up a committee to study this factor. The AMA has recently expressed an interest in certification for P.A.s in order to assure standards.

In Connecticut it has been commented that the use of varying job titles such as child health associate, clinical associate, community health medic, do not differentiate between individuals who have received training which varies in length from five weeks to five years, nor does it indicate previous qualifications.

PHYSICIAN'S ASSISTANT IN PATHOLOGY

The physician's assistant in pathology is a specialist in this new field. In Connecticut, Quinnipiac College, School of Allied Health and Natural Sciences offers a 22-month course with clinical affiliations leading to a Bachelor of Health Science degree; prerequisite for the course is an A.S. degree or previous medical experience.

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RADIOLOGIC TECHNOLOGIST

There are three categories of technologists that assist the therapist physician in general radiology, radiotherapy and nuclear medicine.

The Radiologic Technologist operates x-ray equipment to make radiographs of designated portions of the body and to provide x-ray therapy to patients under the supervision of an M.D. radiologist, and performs related duties. The radiologic technologist may perform in one of three areas: diagnostic, therapeutic and isotopic medicine as above.

He or she will work in hospitals, extended care facilities, nursing homes, public health agencies, outpatient treatment facilities, physician offices, research laboratories, industrial firms. Some 80,000 radiologic technologists were employed in 1970, about two-thirds of them female and one-third in hospitals.(1) In the Northeast, 14,105 were registered; in Connecticut, 1,347 were registered.(2) Seventy percent of these were female minority group representation was small despite hospital recruitment attempts. Job turnover among women seems to be diminishing.(3)

Licensure is not required to practice, and two-thirds of the training is still performed on the job. The radiologic technologist is required to complete a two-year course in his field following high school.

The American Registry of Radiologic Technologists offers an examination leading to the title of Registered Technologist RT(ARRT); to become certified in radiation therapy and nuclear medicine, technicians must have completed an additional year of combined classroom study and work experience. As of June 30, 1972, the ARRT recorded 70,000 individuals registered as RT (ARRT); it is estimated that a total of 110,000 will be registered in 1980.(4)

In July 1971, in the nation there were 1,146 AMA approved programs in radiologic technology, generally two years in duration. There were also Bachelor's and Associate degree programs. In the Northeast, 299 programs graduated 1,487 persons in 1970. In that year, 21 programs graduated 144 persons in Connecticut. (5)

Previously in Connecticut x-ray technologists were trained only in a hospital setting with a diploma or certificate awarded upon completion. Today six hospital-based programs have become affiliated with three community colleges and one private college as a consequence of their proximity to medical institutions; the trend is toward legally required academic preparation over hospital legally required preparation. The growth of government support for educational rather than medical institutions and the problem of financing programs in hospitals due to rate-cost curtailments are also factors. The need for guidelines in drawing up contracts between hospitals and educational institutions for x-ray technician programs has been noted.(6)

There is a need for highly trained technologists as new and complex equipment comes into use, specifically in nuclear medicine.(7) Proficiency examinations are being developed to provide mechanisms to measure ability to perform competently regardless of where knowledge and skills have been acquired.(8)

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RADIATION THERAPY TECHNOLOGIST

The Radiation Therapy Technologist administers radiation and x-ray equipment, plastic hyperbaric chambers and other laboratory equipment. He or she keeps informed of latest methods, compiles data for research physicians, and shares responsibility for treatment.

The radiation therapy technologist works in hospitals and extended care facilities, public health agencies and physicians' offices. He or she must have completed an approved training program and been certified by the ARRT or be a registered general radiological technologist who has worked for a minimum of one year with a radiation therapist engaged in megavoltage therapy.

As of June 30, 1973, 611 individuals had qualified as radiation therapy technologists according to the regords of the ARRT. The number of individuals applying annually for certification in this emerging occupation is increasing rapidly, and it is estimated that approximately 1,500 persons will have qualified by 1980. (9) In 1970, 165 radiation therapy technologists were registered in the Northeast, nine of them in Connecticut.

Twenty-four hospitals are currently providing some form of radiation therapy in the state, with the bulk of services in the Southwest "pandhandle." (10)

Graduation from high school, completion of an accredited training program in radiation therapy technology of at least two years' duration, is presently the minimum requirement for the practitioner. Such programs may be associated with a hospital, medical school, junior or senior college or university. In order to qualify for a one-year program there are more stringent specifications: the applicant must be a graduate of an approved program in radiologic technology, a registered nurse with specific educational background in radiation physics or equivalent training. Total student capacity for all approved one-year programs is currently 150.

There are currently 29 programs in the United States available to the would-be radiation therapy technician. Of these six are in the Northeast, two in Connecticut, at Quinnipiac and South Central Community College.

NUCLEAR MEDICINE TECHNOLOGIST

The Nuclear Medicine Technologist operates radioisotopic equipment such as scintillation detectors and scanners, to produce scanograms and measure concentration of radioactive isotopes for administration to the patient. He or she performs laboratory tests and computes results for use by the physician, is responsible for the disposal of radio-active waste, safe storage of radio-active material, and inventory and control of radio-pharmaceuticals.

Nuclear medicine technologists may be registered by either the American Registry of Radiologic Technologists (ARRT) or the Registry of Medical Technologists of the American Society of Clinical Pathologists (ASCP). On June 30,

(Nuclear Medicine Technologists cont'd)

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1972, these bodies recorded approximately 1,932 and 399 individuals in the designated specialty, with estimates of 3,000 and 1,000 respectively by 1980.(11)

There are several avenues open for education in this field: graduation from an approved nuclear medicine technician program; registration as a medical technologist plus one year of experience in acceptable clinical radioisotope laboratory; a Bachelor of Science or Associate degree or highschool diploma plus varying amounts of experience. Two year Associate degree level courses are available. The nuclear medicine technologist who wishes to enter an advanced problem at a baccalaureate degree level must be previously registered as a medical technologist, radiologic technologist or as a registered nurse, or have earned at least three years of college credit from an accredited college, university or medical school including a major in the biological or physical sciences.

In 1973, there were 25 AMA approved programs in the nation for the nuclear medicine technologist. There are at present two in the Northeast. The one Connecticut program at Southern Connecticut Community College will graduate its first class of one in 1974.

The Connecticut Hospital Planning Commission reports 70 radiotherapy, general radiology and nuclear medicine technologists currently engaged in radiotherapeutic activities in the state. (12)

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PHYSICAL THERAPIST

The Physical Therapist plans and conducts medically prescribed physical therapy programs for individual patients, involving physical means such as exercise, massage, heat, water, light and electricity. He or she applies diagnostic and prognostic muscle, nerve, joint and functional ability tests.

The physical therapist may work in hospitals, extended care facilities, nursing homes, and rehabilitation centers. The majority of physical therapists work in hospitals; an increasing number are serving in industrial plants and offices.

The field has expanded greatly since 1950, when there were some 4,600 physical therapists in the United States: in 1970, there were close to 15,000, two-thirds of them women. (1) In the Northeast, 3,074 physical therapists were active in Connecticut, of 745 licensed residents, 656 persons were actively practicing. Four hundred persons licensed in Connecticut are residing out of state.(2)

Licensure is required for practice in 50 states, Washington, D.C., Puerto Rico and the Virgin Islands. Such licensure requires the practitioner to hold a degree from a school approved by the AMA and the American Physical Therapy Association (APTA). In Connecticut, biennial registration with the State Department of Health is also required.

Some 58 institutions in the United States as of July 1, 1972 with AMA-APTA approved programs variously offered Bachelor's degree, post-degree certificate courses, and Master's degree programs.(3) Fifteen schools are in the Northeast, one, at the University of Connecticut, in Connecticut. Another program at Quinnipiac College is awaiting approval. There are approximately 217 physical therapy students (junior and senior level) active in the state. All plans offer a minimum of four months clinical experience. According to a professional representative, the University of Connecticut, to fill this requirement, has had to go as far as Washington, D.C. and Texas to place students.

Continuing education, both for practicing physical therapists and for the many women returning to practice, is a concern. It is known that there are at least six physical therapy group practices in Connecticut for which services are contracted to nursing homes and other employers.

PHYSICAL THERAPY ASSISTANT

The Physical Therapy Assistant is a skilled technical worker who performs physical therapy treatments and related duties as assigned by the physical therapist, under whose supervision he or she works. Approximately 10,000 physical therapy assistants were employed in the United States in 1970. (4) This includes persons with all sorts of training backgrounds.

Licensure is not required to practice; generally, training is provided on the job following high school graduation. Vocational, technical and adult education programs also provide educational avenues, and an increasing number of two-year college programs are being offered.

The APTA considers as physical therapy

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(Physical Therapy Assistants cont'd)

assistants only those persons who have completed an Associate degree program. In 1970, 25 physical therapy assistant programs were in the planning stage or had just begun to function.(5) There are now eleven such programs in the Northeast, none of them in Connecticut, the nearest being Springfield Technical Community College, Massachusetts.(6)

PHYSICAL THERAPY AIDE

The Physical Therapy Aide assists with the transportation and preparation of the patient for treatment, working under the supervision of the physical therapist.

OCCUPATIONAL THERAPIST

The Occupational Therapist organizes and conducts programs to facilitate the rehabilitation of physical or mentally handicapped persons. Involved are such activities as manual arts and crafts, practice in functional prevocational and homemaking skills and activities designed to help patients regain physical or mental functioning or to adjust to their handicaps. Through evaluation and early intervention, occupational therapists are contributing to prevention of developmental deficits and psycho-social problems.

The occupational therapist may work in a number of settings: general, children's, psychiatric or veterans hospitals, rehabilitation centers, extended care facilities, nursing homes, outpatient facilities, and community mental health centers.

In 1972, there were 11,756 occupational therapists in the United States, 11,500 of whom were female.(7) The national average of registered occupational therapists was 5.8 per 100,000 population; in the Northeast there are 7.1 per 100,000 population or 3,089 O.T.R.s. Of the 240 O.T.R.s in Connecticut, 42 percent are inactive and the ratio ranges from 3.5 to 15.7 per 100,000 population in different regions. (8)

To practice in the United States, an occupational therapist must hold a Bachelor's degree or certificate in occupational therapy. A minimum of six months of supervised clinical practice is required to qualify for admission to the American Occupational Therapy Association(AOTA) national examination, leading to professional registration. While licensure is not required in Connecticut, certification by the AOTA may be required by the employer.

There were 48 programs in the country offering baccalaureate and Master's program in 1970. (9) In 1971, 769 students completed all academic and field work requirements in AMA-AOTA approved programs. (10) There are currently 15 programs in the Northeast, where some 68 percent of occupational therapists are educated. In Connecticut, Quinnipiac College offers a four year Bachelor's degree program. The trend is toward specialization and a growing number of occupational therapists are seeking a Master's degree.

Gail S. Fidler, Drector, Practice, Education and Research, AOTA, wrote of the need for occupational therapists in a letter dated November 7, 1973 as follows: "Occupational therapists are indeed in scarce supply. Occupational therapy remains

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(Occupational Therapy cont'd)

one of the few health professions in great demand and our educational facilities throughout the country are not sufficient to meet these demands. We do not have data specifically relating to the State of Connecticut, however, since there is a general paucity of therapists I would assume that training facilities in Connecticut are not fully sufficient. In addition educational programs in the northeastern states are not supplying a sufficient number of occupational therapists or occupational therapy assistants. Perhaps a reciprocal arrangement between some of these states would be a practical solution. At least it would seem that an effort to increase the enrollment of those already existing schools would in all probability be wise than to create additional schools. One of the problems of increasing enrollment or increasing the number of colleges offering occupational therapy curriculums is the short supply of faculty.

"According to a recent government manpower study there was an 11 percent existing vacancies for occupational therapists throughout the country. The last Department of Labor study indicated that there was a need for increase of 170 percent in the field of occupational therapy between 1970 and 1980. Thus the shortage of occupational therapists is indeed a very serious concern for the profession and for others responsible for health care services."

OCCUPATIONAL THERAPY ASSISTANT

The Occupational Therapy Assistant works under the supervision of the professional occupational therapist in conducting a program to facilitate the rehabilitation of physically or mentally handicapped patients.

In 1970, approximately 6,000 occupational therapy assistants were employed in the United States, most of them female. Most of these persons received on-the-job training; but vocational, technical and adult education courses are offered, one or two-year community college programs are available. (11)

In 1970, 25 occupational therapy assistant programs had the approval of the AOTA, which adopted new educational standards in November 1973. Directors of approved programs may recommend that graduates be certified by the AOTA and receive the title of C.O.T.A.

The Connecticut Occupational Therapy Association reports 2,100 O.T.A.s certified nationally. In the Northeast, 8,310 O.T.A.s are certified, and there are seven educational programs available to individuals who want to train as an occupational therapy assistant. One of these is in Connecticut, where a two-year Associate degree program is offered at Manchester Community College.

There is no specific job classification for the O.T.A. in the State system. Up to the present, they have been hired under the "therapy aide" category for which requirements are not comparable to their educational preparation.

THERAPEUTIC RECREATOR (RECREATION THERAPIST)

The Therapeutic Recreator, the name by which this occupation is professionally known, plans, organizes and implements activities that can help ill, disabled, institutionalized and deprived persons to satisfy their recreative needs, promoting

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(Therapeutic Recreator cont'd)

improvement toward their physical, mental, emotional and social well-being. Therapeutic recreation is a process which utilizes recreation services for purposive intervention in some physical, emotional and/or social behavior to bring about a desired change in that behavior and to promote the growth and development of the individual.

The therapeutic recreator works in hospitals, extended care facilities, training schools, camps, day-care centers, rehabilitation facilities and correctional institutions.

There were 13,500 recreators (including those in therapeutic settings) employed full-time in the United States in 1970; a large proportion of them in California, New York, Massachusetts, New Jersey, Illinois, Ohio and Pennsylvania. (12) Of the 500 members of the Connecticut Recreation and Parks Association (CRPA), 80 are therapeutic recreators. Between 450 and 500 persons (not all members of the CRPA) are employed in the field of therapeutic recreation at some level in the state, according to the Association.

Licensure is required in some states, including New York. In Connecticut a special committee has been set up by the CRPA to work on this issue. There is an interest in establishing nationally unified curriculum standards and registration standards permitting reciprocity between states.

The therapeutic recreator is the holder of a Bachelor's degree with a major in recreation or related subjects (art, music, physical education, drama). Of the schools offering courses in therapeutic recreation in the United States and Canada, 17 schools offer an Associate degree, 75 a Bachelor's degree, 45 graduate and five Ph.D. programs. A recreation major including therapeutic recreation is offered in programs by four schools in Connecticut. Two schools respectively offer four year and Master's program (University of Connecticut) and four year, Master's and doctoral programs (Southern Connecticut State College). Twenty therapeutic recreators were reported as graduating from these programs in 1973.

THERAPEUTIC RECREATION ASSISTANT

The Recreation Therapy Assistant conducts recreational activities for patients in hospitals and other institutions. A two-year Associate degree in recreation is a requisite for this career, which is also known as Recreation Therapy Technician. Twenty-two persons graduated from the two Associate degree programs in the state at Northwestern Community College and Post Junior College in 1973. Sixty-five to 70 percent of Associate degree holders are expected by CRPA to go on for further education.

MANUAL ARTS THERAPIST

The Manual Arts Therapist develops and directs manual arts programs as well as their coordination and organization. He or she gives assistance and direction to the patient and reports progress. A baccalaureate degree is required to practice.

There are five baccalaureate and one graduate program in the Northeast for the manual arts therapist.

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MUSIC THERAPIST

The Music Therapist plans, organizes and directs medically prescribed musical activities intended to improve or change the patient's mental outlook or to assist him in rehabilitation from mental and physical illness and disabilities.

The National Association for Music Therapy, Inc. reports 36 members in the New England Regional Chapter. Music therapy is still not widely employed in the Northeast region, with less than five percent of the membership residing in the area and no universities offering an Association endorsed music therapy degree.

DANCE THERAPIST

The Dance Therapist plans, organizes and directs medically prescribed dance programs in accordance with the patient's capabilities, needs and interests to affect improvement in his physical, mental and social well-being.

New York University and Hunter College offer graduate degrees in dance therapy. There are no courses specifically designed for dance therapists in Connecticut, but Eastern Connecticut State College does offer a course called "Creative Movement for Teachers" in their School of Education.

ART THERAPIST

A recent survey carried out in Southern California and the Midwest on the status of art therapy defined an art therapist as "a person engaged in the use of art directed toward therapeutic changes in the patient or client." (13)

Art therapists work in children's centers, mental health clinics, psychiatric hospitals, schools, university counseling centers, research centers, reports the American Art Therapy Association, (AATA)and "some of them also teach the discipline of art therapy itself. Therefore, a description of the art therapist's job is as wide as the settings and type of people served." (14)

Art therapy is used in treatment, rehabilitation and education. In a hospital setting, art therapists may be employed through the department of occupational therapy, recreation, activities therapy or art therapy itself.

There were 500 members reported by the three year old AATA in 1973, some 180 of them in the Northeast (principally in New York and Pennsylvania), four of them in Connecticut. This includes student members currently engaged in the study of art therapy.

Respondents to the 1972 survey of hospitals and facilities noted above indicated a preference for therapists with a Master's or Bachelor's degree in art therapy; at present, one-half to two-thirds respectively hold degrees in art or a related field.

There are nine graduate programs in art therapy in the country, three in the Northeast. There are also clinical and special programs. Three of the four undergraduate programs are in the Northeast, including one at Albertus Magnus College, New Haven, Connecticut, where the student majors in art or psychology with an emphasis on art therapy.

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COUNSELOR (REHABILITATION SERVICES)

The Rehabilitation Counselor provides counseling and referral service to patients requiring vocational or physical rehabilitation, under the supervision of a senior worker or other designated professional. He or she also assists in obtaining training, placement and medical treatment for the patient.

The counselor works in hospitals, rehabilitation facilities, correction facilities, public or voluntary welfare agencies, sheltered workshops, extended care facilities, alcoholic and drug treatment clinics. Some 13,000 rehabilitation counselors were employed in the United States in 1970, 11,000 of them on a full-time basis. Three fourths of these were employed by state and local rehabilitation agencies financed cooperatively with Federal and state funds. An estimated 30 percent of rehabilitation counselors are women. (15)

The basic educational requirement for practice is a Bachelor's degree with course credits in counseling, psychology and related fields. There is an increasing emphasis on a Master's degree in vocational or rehabilitation counseling or a related discipline. Master's degree programs are of two-year duration. Doctoral program require four to six years of post-graduate study.

In 1970, 70 colleges and universities offered financial assistance to a limited number of full-time graduate students through the Rehabilitation Services Administration, Department of Health, Education and Welfare.(16) Eighty-six percent of agencies reporting to a recent study(1971) in Georgia indicate that they grant educational leave to their counselors to work toward a higher degree.(17) Sixteen programs in the Northeast graduated 251 persons in 1970; in Connecticut there were eight graduates from one program. Two programs at the University of Hartford and the University of Connecticut graduated 18 in 1973.

There is a trend toward serving new disabled (and more severely disabled) populations such as the mentally ill, mentally retarded, the public offender, the alcoholic and drug addict, the disabled welfare recipient and the social security trust fund beneficiary, with disciplines cooperating in serving more seriously disabled persons. Public funding of private agencies in which the rehabilitation counselor works is on the increase.

REHABILITATION AIDE

The Rehabilitation Aide provides general assistance to the rehabilitation counselor - conducts interviews, researches occupational information, provides referrals to services and follow-ups.

SPEECH PATHOLOGIST AND AUDIOLOGIST

The Speech Pathologist and Audiologist serve in inter-related specialties. The speech pathologist is concerned primarily with speech and language disorders and the audiologist with hearing problems. He or she evaluates causes and test results and interprets findings to parents, teachers and others concerned with

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(Speech Pathologist and Audiologist cont'd)

the patient. The audiologist also works with children and adults but confines himself to diagnostic, habilitative and rehabilitative services and research related to hearing.

Practitioners of these disciplines may serve in general and specialty hospitals, schools, rehabilitation centers, guidance clinics, residential treatment centers, extended care facilities, nursing homes, private practice and physician's offices. Approximately 22,000 speech pathologists and audiologists were employed in the United States in 1970, the majority female and the majority in the public school system. (18) There were 3,390 members of the American Speech and Hearing Association in the Northeast in 1970, 287 of them in Connecticut.

A Bachelor's degree in speech pathology and audiology is the current minimum requirement in most states. While only a few states now require it, a Master's degree or its equivalent is being increasingly stressed as the minimum educational standard for employment in the public school system. Most clinical settings require the Master's degree for employment.

Connecticut State Public Act 470 requires licensure in order to practice as of January 1974. It specifies that the practitioner hold a Master's degree (or have completed an educational program deemed its equivalent by the Commissioner) which must include an approved clinical program of either nine months full-time or 18 months part-time duration under the supervision of a licensed or certified speech pathologist or audiologist. The required written examination may be waived for persons who have practiced for at least 30 months in the ten years preceding July 1, 1974.

Throughout the nation, 203 colleges and universities offered graduate education in speech pathology and audiology in 1970. (19) Of these, 31 were in the Northeast. There are at present 38 programs in the Northeast: two Master's degree programs are located at the University of Connecticut and Southern Connecticut State College.

ORTHOTISTS AND PROSTHETISTS

Orthotists and Prosthetists construct and repair corrective devices such as braces and artificial limbs, to minimize disabilities caused by injuries, amputation and deformity of the spine and and limbs. Usually orthotists make and fit corrective devices, while prosthetists build and fit artificial limbs. All their work is performed to a prescription by a physician. They work in privately owned facilities, rehabilitation centers and hospitals.

Over 3,600 orthotists and prosthetists were working in the United States in 1970, including 1,300 practitioners certified by the American Board for the certification of Orthotics and Prosthetists. (20)

Licensure is not required, but there is an increasing emphasis on formal training. Previously a four year on-the-job training apprenticeship under supervision of a board-certified-specialist was required; since 1970, a revision of the practitioner certification program requires completion of at least three specified short-term courses at a board accredited college. In 1969-70, 136 students were enrolled in accredited schools.(21) After 1975, an Associate degree will be required for those planning to take the certifying examination. New York City has a course for practitioners at New York University; in Connecticut, Newington Children's Hospital has a program.

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RESPIRATORY THERAPIST (INHALATION THERAPIST)

The Respiratory Therapist, formerly known as the Inhalation Therapist, under the direction of a qualified physician, sets up and operates various types of oxygen equipment and other therapeutic gas inhalation machines to administer oxygen and medical gases to patients. He or she works in hospitals, extended care facilities, nursing homes, outpatient treatment and rehabilitation facilities.

Most respiratory therapists are employed in hospitals, although an increasing number are being employed in clinics, physicians' offices and emergency oxygen service. Most are men, but the number of women in the field is growing.

To be certified, a respiratory therapist is required to have an Associate degree in a program approved by the Joint Review Committee for Inhalation Therapy Education, the equivalent of a high school education with two years experience in inhalation therapy under medical supervision, or be a graduate of a training program with one year of such experience. Therapists who complete formal training plus one year of experience are eligible for registration.

In July, 1972, there were 1,669 registered respiratory therapists.(1) In Connecticut, graduation from high school and completion of an 18-to-24 month accredited training program or an Associate degree from a two-year community college are alternate training modes. No licensure is required.

In July, 1972, 104 schools in the nation were offering A.M.A. approved programs, with courses varying from 18 months to four years. During 1971, 749 students completed all academic and clinical requirements for registration.(2) In the Northeast, 22 such courses graduated 110 persons in 1970; in Connecticut, seven courses graduated 39 persons that year. In 1973, four courses graduated 36 respiratory therapists and an additional program is proposed for fall of 1974 at Western Connecticut State College. An increasing number of colleges rather than hospitals are training inhalation therapists.

RESPIRATORY THERAPY TECHNICIAN

The Respiratory Therapy Technician, under the supervision of a qualified physician or respiratory therapist performs in an assistant role most of the same functions as the respiratory therapist, with a lesser degree of responsibility commensurate with his training. There were a total of 3,753 individuals certified as respiratory therapy technicians in the United States in July, 1972.(3) First applications for approval of individual one-year educational programs were in progress at the time of reporting for the 1973 Allied Medical Education Directory.

In Connecticut, graduation from high school and completion of six-to-twelve months accredited training program, usually conducted in the hospital, is the minimum educational requirement to practice.

PULMONARY FUNCTION TECHNICIAN

The Pulmonary Function Technician operates electrical respiratory equipment to assist physicians in their diagnosis and treatment of lung disorders. He or she is responsible to a senior technician or physician in performing such tasks.

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SOCIAL WORKER

The Social Worker performs social work functions such as counseling and assisting individuals and families in finding solutions to socio-economic problems and environmental difficulties. He or she utilizes community resources and may work in a team with other professional workers in diagnosis and treatment.

The social worker may practice in general, psychiatric, children's, veterans' hospitals; in rehabilitation facilities, extended care facilities, nursing home; public health and welfare agencies, family service associations, or mental health centers, schools, adoption agencies, guidance clinics, correctional facilities, the courts.

In 1970, about 170,000 social workers were employed in the United States. (1) There are approximately 1,200 social workers with Master's degrees in the two chapters of the National Association of Social Workers (NASW) in Connecticut. According to a survey by the Northern Connecticut Chapter of NASW, with 195 persons or one-third of the membership responding, 68.7 percent were engaged in casework, 11.3 percent in group work, and 90.8 percent had a Master's degree in social work.

Social workers with a Master's degree who belong to the NASW are eligible for certification as members of the Academy of Certified Social Workers. No licensure is required to practice in the United States, but a Bachelor's degree is generally required for beginning jobs and a Master's degree involving two years of specialized study and supervised field instruction in an accredited school of social work is needed for teaching and specialization. Most states require passage of a written examination in social work by beginners for employment in a government agency. There is present discussion in Connecticut in the Legislature about the possibility of licensure for the social worker.

In 1970, 70 graduate schools of social work were accredited by the Council on Social Work Education.(2) The 18 programs in the Northeast graduated 1,648 social work students in 1970. (3) The one program in Connecticut, at the University of Connecticut, graduated 78 students, but the program was not oriented toward medical specialties.

Specialties in social work besides case and group work include medical, psychiatric and community organizations. The Medical Social Worker serves as part of the team in medical and health centers. The Psychiatric Social Worker provides services in mental health centers, hospitals or clinics. The social worker with a community organization orientation functions in voluntary health agencies, health administration, government health programs.

Mr. Kenneth M. Smith, Chief, Public Health Social Work Section, Connecticut State Department of Health, estimates that only 140 of the 1,200 social workers in Connecticut Chapters of

(Social Worker cont'd)

The NASW work in medical or health centers. He has projected the need for "at least 300 medical social workers in the State within the next five years." He sees the need for more social work manpower in medical, public health and rehabilitation settings.

MENTAL HEALTH WORKER

The Mental Health Worker, under supervision of a senior worker, social worker or other designated member of the staff and as a member of a treatment team, participate in rehabilitation of emotionally disturbed patients. He or she may work in a mental health center, out-patient treatment facility, child guidance clinic, halfway house, or psychiatric hospital.

COMMUNITY HEALTH AIDE

The Community Health Aide is a new health care worker who acts as a liaison between the hospital and the community and as a friend to patients. For this work he or she may take one year's training in the hospital.

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SURGICAL TECHNICIAN

The Surgical Technician assists the surgical team before, during and after surgery and is responsible to a member of the hospital operating room nursing staff. Approximately 25,000 surgical technicians were employed in the United States in 1970, most of them women. Licensure is not required to practice.(1)

An applicant for a surgical technician position usually must have a high school education or its equivalent for admission to on-the-job training programs offered in hospitals which last anywhere from six weeks to one year. Aptitude tests and a physical examination may also be required. In Connecticut, requirements for surgical technicians vary according to hospitals in the state. Usually a high school diploma and completion of a 10 to 12 months training program at a hospital is the minimum educational requirement. To our present knowledge 8 hospitals are offering such training in the state.

In 1970, twenty-five junior colleges in the country were offering one-year courses leading to a certificate; two-year Associate degree programs were also available.(2) In the Northeast four programs are available. In Connecticut, a formal two-year Associate degree program has recently been introduced at Manchester Community College.

INTRAVENOUS THERAPY TECHNICIAN

The Intravenous Therapy Technician or medication technician, under medical supervision and following established guidelines, prepares and administers fluids intravenously; and observes, records and reports on reactions of patients and/or blood donors. The intravenous therapy technician may work at a hospital, extended care facility or nursing home. Licensure is not required to practice.

Educational requirements in Connecticut and length of training may vary according to the employer's needs. High school level science and math background are considered necessary for the intravenous therapy technician. Graduation from high school is preferred, with one year of college considered highly desirable, as prerequisites to enter a 12-month training program for the intravenous medication technician now offered at Hartford Hospital. The program is 12 months in duration and consists of five months of academic and seven months of on-the-job training.

EMERGENCY MEDICAL TECHNICIAN

The Emergency Medical Technician responds to directions from the dispatcher, drives the ambulance to the location of the emergency, and enlists the assistance of police or others to create a safe traffic environment. He is responsible for providing immediate transportation and emergency care of the critically ill and injured.

A two-year Associate degree program for training emergency medical technicians to be designated as such was in the developmental stage as of reporting in Health Resources Statistics 1971. In the Northeast in 1970, there was one program for EMTs in a New York two-year college.

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(Emergency Medical Technician, Cont'd.)

In Connecticut the Yale Trauma Program was established in 1970 as a multidisciplinary effort to study and solve problems in trauma and emergency care. It found that one-quarter of ambulance services in the state provided no in-service training for their drivers or attendants.(3)

The Connecticut Advisory Committee allocated approximately $30,000 of Department of Transportation funds for training of EMTs in the Spring of 1971. An additional $124,000 in Federal funds was granted for EMT training and 1,718 technicians had been trained as of September 1973. Licensure is required for commercial carriers.

Training, coordinated by the State Department of Health, is given in hospitals and colleges. It consists of 81 hours of academic and clinical instruction; a 20-hour refresher course is also available. The trainee is required to be 18 years of age or more and a high school graduate.

ELECTROENCEPHALOGRAPH TECHNICIAN

The Electroencephalograph Technician measures by means of electroencephalograph (EEG) impulse frequencies and differences in electrical potential between various areas of the brain, to obtain data for use in diagnosis of brain disorders. He or she analyses patients' records for pertinent history in order to be alert for symptoms during the test, studies characteristics of tracings and calls attention to unusual patterns which may indicate brain disorders, and submits data and tracings to the physician for diagnosis.

EEG technicians work in hospitals and extended care facilities. Approximately 3,000 EEG technicians were employed in 1970, mostly in hospitals, most of them women.(4)

Usual education requirement for the EEG technician is on-the-job training following high school graduation. This is both the national and the state preference. Nationally, 15 colleges offered three month to one year formal programs for the electroencephalograph technician in 1970.(5)

ELECTROCARDIOGRAPH TECHNICIAN

The Electrocardiograph Technician records electromotive variations in the action of heart muscle on an electrocardiograph (EKG) for diagnosis of heart ailments, studies patient records to record identifying information for EEG records. He or she prepares and positions patients, attaches electrodes, reviews recording for clarity and deviations, and is also responsible for keeping the machine in good general working order and reports malfunctions to repairman.

An electrocardiograph technician works in hospitals, extended care facilities, nursing homes and physicians' offices. Some 9,500 were employed in the United States in 1970, most of them in hospitals, and most of them women.(6) Licensure is not required to practice.

General educational requirements are an on-the-job training period of up to three months. Usually required in Connecticut: graduation from high school followed by three to six months of on-the-job training supervised by a senior technician or physician.

(Electrocardiograph Technician, Cont'd.)

A few colleges and universities in the country offer EKG courses. There are no such programs at present in Connecticut outside of the hospital setting.

BIOMEDICAL EQUIPMENT TECHNICIAN

The Biomedical Equipment Technician tests and repairs electromedical equipment such as electrocardiographs, sterilizers, operating room lamps and tables, and diathermy machines, following schematic diagrams and using hand tools and test meters.

OTHER OCCUPATIONS

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BIOLOGICAL PHOTOGRAPHER

The Biological Photographer photographs medical, biological and allied phenomena to provide illustrations for scientific publications, records, research and teaching purposes. He or she also may do darkroom and related work.

The Biological Photographic Association, which was founded at Yale University in 1931, reports a membership of some 1100, most of them practicing photographers in hospitals, medical and educational and research settings. In New England, membership is about 75; in the New York area about 125, and the general estimate of membership is that it comprises between twenty-and twenty-five percent of available persons in the field.

The BPA maintains a Board of Registry so that qualified biological photographers can have their knowledge and experience attested by passing required examinations and becoming certified as Registered Biological Photographers (RPB).

A number of educational institutions offer courses leading to science degrees in biological photography. At Rochester Institute of Technology, a 2-year course leads to an associate degree in biomedical photographs and a four-year course leads to a baccalaureate degree.

MEDICAL ILLUSTRATOR

The Medical Illustrator makes sketches and other forms of illustration of anatomical and pathological specimens, microorganisms, plant and animal tissue. He or she may prepare paintings, models and visual aids for research and teaching.

MEDICAL LIBRARIAN

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The Medical (or Health Science) Librarian administers and maintains the library in a hospital setting or medical center. He or she, individually or in conjunction with other staff members, is in charge of selection and classification of materials, reader assistance, and staff and student research assistance. Some of today's medical libraries include computers, micro-reproduction equipment, photoduplicating devices, tele-dating processing and an assortment of audiovisual aids.

A Health Sciences Library Manpower Study entered on in 1968 through the sponsorship of the Medical Library Association and supported in part by the National Library of Medicine identified 2,628 hospital libraries with 3,259 professional and 2,602 non-professional personnel. There were 1,328 libraries outside of the hospital and 771 in public and academic health sciences departments with 2,793 professional and 6,284 non-professional personnel. In hospital libraries, many manned by one person, the ratio of professional to non-professional was 1:0.8, in educational institutions one professional to three non-professionals.(1)

The Directory of Health Sciences in the United States records that the State of Connecticut has 56 health science libraries with 156 employees.(2) There are 65 medical librarians in general hospitals and schools of nursing in the state, 47 in health sciences libraries, miscellaneous and special libraries, according to the Connecticut Regional Medical Program.Most libraries in the state are staffed by non-professional women.

Of the 4,625 librarians graduated in 1968, the Medical Library Association reported that 92 entered the medical field.(3) According to the Subcommittee of the President's Commission on Heart Disease, Cancer and Stroke, 3,200 additional medical librarians were needed at the time of reporting. Professional sources indicate this need has been filled since 1964, or that present funding is not available to fill positions.

Licensure is not required to be a medical librarian: however, certification, for which requirements are currently being reevaluated, is available and desirable for administrative positions. The basic minimum educational requirements for certification is a Master's degree in library science.

There are 53 schools of librarianship in the country accredited by the American Library Association, for which a B.A. or B.S. degree is a prerequisite. (A major in biological sciences, behavioral or social sciences, the humanities or physical sciences is appropriate.) (4)

Fourteen schools in the Northeast are known to be offering courses in medical librarianship.(5) In Connecticut, the Southern Connecticut State College offers an M.S. in Library Science but does not offer courses in medical librarianship.

Library administrators consider that non-professionals, who have not fulfilled the requirements above, could benefit from courses in basic library skills, but often such courses are not locally available. The American Library Association suggests the use of consultant service or supervisory personnel, the pooling of resources and the sharing of services by two or more health care institutions in a geographic area, and service supplied through a regional library system.(6)

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(Medical Librarian, Cont'd)

In Connecticut, the University of Connecticut Library and the Yale University School of Medicine serve as regional referral centers for the other medical libraries in the state.

OPTOMETRIST

The Optometrist examines eyes to determine visual efficiency and performance by means of instrumentation and observation, and prescribes corrective procedures. He refers patients with pathological conditions to the medical practitioner. Approximately 18,000 optometrists, nearly all of whom are men, were practicing in the nation in 1970. Of these, four out of ten were located in five states: California, Illinois, Ohio, and in the Northeast region, New York and Pennsylvania. Some were located in the New England States.(7) In the Northeast, 3,261 hold licenses; of these nearly 300 were in Connecticut. Most optometrists are self-employed.

Licensure to practice optometry is required in all states and in Washington, D.C., with reciprocity practiced between some states. Applicants for licenses must be graduates of an accredited school of optometry and pass the State Board examination of the state in which they will practice. It is becoming increasingly difficult to fulfill educational requirements without taking a four-year pre-optometry course plus four years of schooling in an approved school of optometry. In Rhode Island, in addition to six years of training, a six-month internship is required for licensure.(8)

In 1972 there were 12 schools of optometry in the country; in 1974 there are to be 14. In the Northeast, there are three optometry schools: in Massachusetts, New York and Pennsylvania. There are no present facilities for optometric training in Connecticut. In view of the limited educational facilities, a contract whereby slots will be saved for Connecticut residents at the schools in the Northeast has been suggested.

The Connecticut Optometric Society is preparing to unfold a program for continuing education for all optometrists in the State. Continuing education requirements for re-licensure for the practice of optometry are to become mandatory in 1974. Accreditation of studies and courses will be ascertained by an evaluation committee of the International Association of Boards of Examiners in Optometry. Persons active in the profession have expressed the need and interest in pharmacology study for practicing optometrists.

A steady increase in significant vision problems in the 4-25 year-old age group, the needs of older people and white collar workers, prepayment and group health plans, the national health plan and population growth are factors to be taken into account when considering the next decade. At present the ratio of optometrists to the general population is one to 11,000. The Connecticut Optometric Society considers the ideal ratio to be one to 7,000 persons in the population. The overlapping of services between optometrists and ophthalmologists, physicians who specialize in eye diseases and injuries, perform eye surgery and

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(Optometrist, Cont'd.)

prescribe drug and other treatment as well as lenses, is of concern.

The optometric assistant serves in a supportive capacity to the optometrist.

CLINICAL PSYCHOLOGIST

The Clinical Psychologist diagnoses mental and emotional disorders of individuals, and administers and conducts programs of treatment. He or she selects, administers and interprets intelligence, achievement, interest, personality and other psychological tests to diagnose disorders and formulate plans for treatment. He also applies psychological techniques to problems in group and individual adjustment and may conduct research in fields of personality development and adjustment.

Clinical psychologists practice in general and psychiatric hospitals and outpatient treatment centers, community mental health centers, schools, family service organizations, child guidance clinics, colleges, private practice, public health agencies and correctional facilities.

There were 6,800 clinical psychologists in the country in 1971; of the 40,000 psychologists of all types, about one-fourth were women. In the Northeast, 2,825 clinical psychologists were practicing of which 244 were in Connecticut.(9) More recent figures from the State of Connecticut Board of Examiners of Psychologists report 342 psychologists licensed to practice in Connecticut as of June 30, 1973 - 230 clinical psychologists and 112 consulting.

The clinical psychologist requires certification by the American Board of Examiners in Professional Psychology to practice in the United States. Licensure is required for practice in Connecticut. The clinical psychologist requires three to five years of graduate work for a doctoral degree, which generally includes a one-year internship or supervised experience.

A Master's degree involving one year of graduate study is the general minimum requirement for practice in any area of the field; there is a trend to the Ph.D. requirement, and certification or licensure is being required in an increasing number of states for independent practice. (43 states had such a requirement in 1971).

In 1969, seven colleges offered advanced degree courses in clinical psychology in the Northeast with 42 graduates. One program in Connecticut had eight graduates in 1973.

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Section J. APPENDIX

INTRODUCTION

This section on the Northeast was compiled as a part of The Study of Educational Programs and Employment Opportunities in Health, in order to identify the educators and potential employers of health professionals within the proximity of Connecticut. The Connecticut General Assembly recognized the interaction between the nine neighboring states and, therefore, mandated the inclusion of information pertaining to education and employment in the region. It was understood that those states which have unique educational programs will supply the rest of the region with needed trained personnel. There has also been evidence in the past of migration into, out of, and within the Northeast area, resulting in possible maldistributions of certain health workers in certain areas within this region. It is hoped that this attempt at listing all the known health educational programs offered within the Northeast area will be the start of the standardization of health manpower data and will provide an information source on which states and individuals can base decisions.

A wide range of sources were consulted in this compilation of health information for the Northeast. Personal contacts were made with key people in all of the Northeastern states, representing agencies such as Comprehensive Health Planning, Regional Medical Programs, Health Careers Councils, State Health and Education Departments, and the New England Board of Higher Education, to determine what pertinent studies or information could be provided. The Manpower Resources and Requirements Branch, Bureau of Health Manpower Education, Department of HEW, was consulted, as were federal and national references.

The time constraints of the Institute study for the Commission did not permit an original search for Northeast data. This is, however, an attempt to offer a compilation of educational data for health manpower abstracted from numerous sources. Information on employment for health manpower was also gathered. However, due to inconsistency of data, this was not compiled.

Table I, "A Tabulation of Programs for Selected Health Occupations in the Northeast" incorporated the educational information from a variety of sources into one document. Each Northeastern state is seen in its role as an educator of health manpower in relation to neighboring states.

Following Table I, is a listing, IA, "Selected Health Programs offered in Two and Four Year Public and Private Colleges and Universities, including Registered Nurse and Licensed Practical Nurse Programs." This ennumerates by state those educational institutions offering health programs, and the programs which they sponsor. These lists detail the numerical data contained in Table I.

Table II, "Selected Professional and Higher Education Schools in the Northeast including Enrollment and Graduates" provides an estimate of the enrollment and yearly graduating classes for some occupations. Health Resources Statistics, 1972-73 is the main source of these data.

Table III, "Distribution of Selected Health Professionals in the Northeast" reports on the current supply of health professionals in each state. This information is contained in Health Resources Statistics, 1972-73.

Table IV, "Number of General Hospitals offering Given Services in the Northeast" identifies the specialized services in general hospitals, as compiled in the Area Resource File from the Division of Manpower Intelligence.

The Selected Bibliography ennumerates by state some studies in health manpower: definitions, employment settings and opportunities, and distribution.

An exchange of information has been made with the New England Board of Higher Education regarding a joint information system, program registry, job banks, a clinical sites pool and student exchanges. It is hoped that this work will serve as an impetus to a more in-depth study on educational programs for health professions in the Northeast.

NORTHEAST STATES

TABULATION OF PROGRAMS FOR SELECTED HEALTH OCCUPATIONS

Table 1

Selected Health Program	Conn.	Maine	Mass.	N.H.	N.J.	N.Y.	Penna	R.I.	Vt.	N. East Total
Administration										
Health Care Administrator	3		7	2	1	5(3*)	1 (1*)			19
Hospital Administrator	1					3	3[d]			7
Nursing Home Administrator			3			5				8
Dental										
Dental Hygienist, B.S.	1	1	2		1	1	3	1		10
Dental Hygienist, A.S.	1	1	4	1	5	9	1	1	1	24
Dental Assistant	6		20	1	15	34	3		1	80
Dental Laboratory Technician	1		5		4	38[a]				48
Dietetics										
Dietitian	2	1	4	3	4	9	12 (3)	1	1	37
Dietetic Aide	2		8	1		14				25
Education										
Health Educator	5		12 (?*)		5	21(8*)	5(4*)			48
Special Education	11 (6*)								2	13
Child Care Worker	8			1						9
Environmental Health										
Environmental Health Technologist	2		2(1*)			1			1	6
Environmental Health Technician	3		6			9				18
Laboratory										
Medical Technologist	7	3[b]	18	4	11[d]	37[c]	37[d]	7	3	127
Certified Laboratory Assistant	4	2[b]		2	11[d]	9		3	2	33
Medical Laboratory Technician	3		18[n]	4	10	35	4	1	1	76
Cytotechnologist	3		3	1	3	8	8[d]	2		28
Histologic Technician			1	2		6	1	2		12
Nuclear Medical Technologist (See Radiology Group)										

	Conn.	Maine	Mass.	N.H.	N.J.	N.Y.	Penna	R.I.	Vt.	Total
Medical Engineering										
Biomedical Engineer	1 (1*)		7 (4*)			5 (5*)	6 (5*)	3 (2*)	1 (1*)	23
Biomedical Equipment Technician			2							2
Medical Library										
Medical Librarian			1		1[e]	9 (9*)	2[e]	1[e]		14
Medical Records										
Medical Records Librarian			3	1		3	2			9
Medical Records Technician			4		1	5	2			12
Medical Transcriptionist	1		2			1				4
Registered Nurse (Total)	26	7[k]	85	9	42	144	116[k]	6[k]	4[k]	443
Associate Degree	5	2[k]	15	1	13	42	12[k]	1[k]	3[k]	94
Diploma	14	4[k]	38	6	22	55	89[k]	4[k]		234
Baccalaureate	5	1[k]	10	2	6	34	15[k]	3[k]	1[k]	77
Graduate Program (M.S.)	2		22		1	13				38
Post Basic Courses										
Nurse Anesthetist	6		9	2		10		2	1	30
Nurse Midwife	1					4	1[f]			6
Pediatric Nurse Associate	1				1	1				3
Adult Nurse Practitioner	1									1
Licensed Practical Nurse	10	5[d]	40	4	39[k]	118	57[d]	2	2	277
Nursing Related										
Nursing Aide	63		99[g]			182		8		352
Child Technician					1					1
Psychiatric Aide	6					4				10
Office - Medical										
Medical Secretary [9]	13	1	31	3	10	40	8	2[pr]	3	111
Medical Office Assistant	2	2	15	2	12	27	5	1	2	68

NORTHEAST STATES

TABULATION OF SELECTED HEALTH PROGRAMS OFFERED

Table 1 (Cont'd.)

Selected Health Program	Conn.	Maine	Mass.	N.H.	N.J.	N.Y.	Penna	R.I.	Vt.	N. East Total
Optometry										
Optometrist[12]			1			1	1			3
Pharmacy										
Pharmacist	1		9(6*)		1	6	4[d]	2(1*)	1(1*)	24
Physicians Assistant										
Physicians Assistant	1		1	1		2				5
Physician's Assistant in Pathology	1									1
Radiology										
Radiologic Technologist	23	9[d]	64	7	39	70	91[d]	8	2	313
Radiation Therapy Technician	2		1			3				6
Nuclear Medicine Technologist	1		1			1				3
Rehabilitation Therapy										
Physical Therapist	2		4(1*)			12	5		1	24
Physical Therapy Assistant			1		3	6	1			11
Physical Therapy Aide			3			6				9
Occupational Therapist	1		3(1*)	1		7(2*)	3			15
Occupational Therapy Assistant	1			1	1	2	2			7
Speech Pathologist, M.A.	2	1	5		6	16	6	1	1	38
Recreation Therapist	2		7(4*)			4				13
Recreation Therapy Assistant	2		1		1	8				12
Manual Arts Therapist		1				3[1]	2			6
Music Therapist					1[d]					1
Dance Therapist						1				1
Art Therapist	1						1			2
Rehabilitation Counselor	2	1	10(7*)			6(6*)	5(1*)			24
Rehabilitation Aide			3		1	3				7
Orthotist and Prosthetist	1					1				2

Table 1 (Cont'd.)

Selected Health Program	Conn.	Maine	Mass.	N.H.	N.J.	N.Y.	Penna	R.I.	Vt.	N. East Total
Respiratory Therapy										
Respiratory Therapist	5	1[d]	6		5	13	4	2		36
Respiratory Therapy Technician	9		5		12	19				45
Pulmonary Function Technician	1									1
Social Services										
Social Worker	5(1*)		20(11*)	2	1(1*)[d]	20(11*)	3(3*)		1	52
Social Service Aide	7		3	1		8				19
Community Health Aide	1		14			13				28
Mental Health Worker/Assistant	6		8			5	2			21
Technicians										
Surgical Technician	8		17	1		31	1	4		62
Electrocardiograph	3					6				9
Electroencephalograph	1[j]		3			2				6
Emergency Medical Technician	1					8			1	10
Intravenous Therapy Technician	1					1				2
Additional Programs										
Biological Photographer			1			3				4
Clinical Psychologist	1(1*)	1(1*)[d]	5(5*)			9(9*)			1(1*)	17
Ward Clerk	5		6			14				25
Medical Illustrator						1				1

Footnotes

*Numbers with asterisk in parenthesis represent graduate programs included in frequency figure.

(?*) Signifies unknown number of graduate programs.

a Includes Laboratories and schools.

b Only programs approved by A. M. A.

c Includes both educational institutions and hospitals.

d Data from Health Resources Statistics, Health Manpower and Health Facilities, 1971. U. S. Department of HEW.

Footnotes (Cont.)

e Data from American Library Association, 1973 (accredited programs).
f Brochure from American College of Nurse Midwives (undated).
g Includes orderlies, psychiatric aides, geriatric aides and mental health aides.
h Some states may categorize Medical Office Assistant with Medical Secretary and receptionist.
j All registration is done through the State of Conn. Health Department which has arranged for 20 clinical sites and 3 Community Colleges to provide the 81-hour course as required by law for ambulance drivers.
k State-Approved Schools of Nursing 1972, National League for Nursing.
m Data from Connecticut Optometric Society.
n This figure includes Medical Laboratory Technicians and Certified Laboratory Assistants.
p Data from Allied Health Education Programs in Senior Colleges, 1971. Compiled by Association of Schools of Allied Health Professions.
r Data from Allied Health Education Programs in Junior Colleges, 1970. Compiled by American Association of Junior Colleges.

Main Data Sources

Connecticut—Health Careers in Connecticut, 1974 edition, Conn. Institute for Health Manpower Resources, Inc., Unpublished.

Maine—Allied Health Education Programs in Junior Colleges, 1970, Compiled by American Association of Junior Colleges, 1970.
Allied Health Education Programs in Senior Colleges, 1971, Compiled by Association of Schools of Allied Health Professions.

Massachusetts— Massachusetts Health Occupations Training, 1970 (Preliminary listing) February 1971-- conducted by Training Center for Comprehensive Care-- Tufts University.

New Hampshire—Health Training Programs in New Hampshire. Compiled by New Hampshire Health Careers Council, 1973. (Unpublished)

New Jersey—Health Professions Education Master Plan. Department of Higher Education, Trenton, New Jersey, 1972.

New York—Printout supplied by New York Hospital Association.

Pennsylvania—Allied Health Education Programs in Junior Colleges, 1970. Compiled by American Association of Junior Colleges, 1970.
Allied Health Education Programs in Senior Colleges, 1971. Compiled by Association of Schools of Allied Health Professions, 1971.
Health Resources Statistics-- Health Manpower and Health Facilities, 1971, U. S. Department of HEW.

Rhode Island—Rhode Island Health Sciences Education Council—1973 (Unpublished) for educational institution data.
Careers in Hospitals, 1972-1973. Prepared by Hospital Association of Rhode Island for hospital data.

Vermont—An Inventory of Health-Related Educational Programs in the State of Vermont, 1972. Prepared by Northern New England Regional Medical Program.

NORTHEASTERN STATES

Listing IA

SELECTED HEALTH PROGRAMS OFFERED IN TWO AND FOUR YEAR PUBLIC AND PRIVATE COLLEGES AND UNIVERSITIES
REGISTERED NURSE AND LICENSED PRACTICAL NURSE PROGRAMS OFFERED IN THESE
AND OTHER INSTITUTIONS**

**Correction of duplication has been attempted when sources overlapped and programs were listed more than once. A specific program is mentioned only once even if the institution may offer programs on several levels, i.e., Occupational Therapist B.S., Occupational Therapist M.S., Occupational Therapist Ph.D.

Sources: Allied Health Education Programs in Junior Colleges/1970 compiled by American Association of Junior Colleges/1970, U.S. Department of Health, Education and Welfare, Publication No. (N.I.H.) 72-163.

Allied Health Education Programs in Senior Colleges/1971 compiled by Association of Schools of Allied Health Professions, U.S. Department of Health, Education and Welfare, Publication No. (N.I.H.) 73-241.

State Approved Schools of Nursing, Licensed Practical Nurse/Licensed Vocational Nurse, 1972, National League for Nursing.

State Approved Schools of Nursing, Registered Nurse, 1972, National League for Nursing.

Listing

CONNECTICUT

2 YEAR PUBLIC AND PRIVATE SCHOOLS

Greater Hartford Community College
- Child Care Worker
- Medical Records Technician
- Medical Secretary
- Medical Transcriptionist
- Social Service Aide

Housatonic Community College
- Child Care Worker
- (A. S. and Certificate Programs)
- Health Care Administrator
- Medical Laboratory Technician
- Occupational Safety & Health Technician
- (Proposed Program)
- Social Service Worker
- (Urban Professional Assistant)

Manchester Community College
- Dental Assistant (Proposed Program)
- Dental Office Administration
- Emergency Medical Technician
- (Proposed Program)
- Medical Laboratory Technician
- Medical Office Administration
- Occupational Therapy Assistant[1]
- Respiratory Therapist
- Social Service Aide
- Surgical Technician[1]
- Veterinary Assistant (Proposed Program)

Mattatuck Community College
- Child Care Worker
- Medical Secretary
- Mental Health Worker
- Nurse, A. S. Degree
- Radiologic Technologist
- Social Service Aide

Middlesex Community College
- Environmental Health Technician
- Medical Secretary
- Mental Health Worker
- Occupational Health & Safety Technician
- (Proposed Program)
- Radiologic Technologist[1]

Mitchell College
- Social Service Aide

Mohegan Community College
- Child Care Worker
- Nurse, A. S. Degree

Northwestern Connecticut Community College
- Child Care Worker
- Environmental Health Technician
- Medical Secretary
- Recreation Therapy Assistant
- Registered Nurse Program
- (In cooperation with Central Connecticut
- State College)

Norwalk Community College
- Child Care Worker
- Nurse, A. S. Degree[1]
- Nurse, Refresher Course
- Respiratory Therapist
- (Inhalation Therapist)
- Social Service Aide
- (Human Service Curriculum)

Norwalk State Technical College
- Environmental Health Technician

Post Junior College
- Child Care Worker
- Emergency Medical Technician
- (Proposed Program)
- Medical Secretary
- Recreation Therapy Assistant

Quinebaug Valley Community College
- Medical Secretary

South Central Community College
- Child Care Worker
- Dental Assistant
- Dental Laboratory Technician
- Dietetic Technician
- Licensed Pratical Nurse
- Medical Secretary (Discontinued)
- Nuclear Medicine Technologist
- Radiation Therapy Technologist
- Radiologic Technologist
- Social Service Aide
- (Human Service Aide)

Tunxis Community College
- Dental Hygienist, A. S.
- (Proposed Program)
- Medical Secretary
- Nurse, A. S. (Proposed Program)

Listing

4 YEAR PUBLIC AND PRIVATE COLLEGES/UNIVERSITIES

Albertus Magnus College
- Art Therapist (Proposed Jan., 1974) [1]

Central Connecticut State College
- Medical Technologist
- Nurse, Bachelor program for R. N.
- Nurse, B. S. Degree in Nursing Education (Health Educator)
- Social Work (B. A.)
- Speech Therapist (B. A.)
- Teacher, Special Education (B. S. and M. S.)

Connecticut College
- Pre-medical program for minority students

Eastern Connecticut State College
- Medical Technologist
- Nurse, Bachelor Program for R. N.

Fairfield University
- Nurse, B. S. Degree
- Teacher, Special Education (Masters degree, 6th year certificate)

Quinnipiac College
- Clinical Chemist
- Clinical Microbiologist
- Cytotechnologist
- Environmental Health Technologist
- Health Services Administrator
- Laboratory Animal Technologist
- Medical Laboratory Science (Master Program)
- Medical Records Technician (Discontinued)
- Medical Secretary
- Medical Technologist
- Nurse, A. S. Degree [1]
- Occupational Therapist
- Physical Therapist
- Physician's Assistant in Pathology
- Radiation Therapy Technologist
- Radiologic Technologist
- Respiratory Therapist (Inhalation Therapist)

St. Joseph College
- Dietitian
- Social Worker
- Teacher, Special Education (B. A., M. A. and 6th year certificate)

Southern Connecticut State College
- Health Educator
- Nurse, B. S. Degree
- Recreation Therapist (B. A., M. A.)
- Social Worker
- Speech Pathologist and Audiologist
- Teacher, Special Education

University of Bridgeport
- Dental Hygienist, A. S.
- Dental Hygienist, B. S.
- Dental Hygiene Education
- Environmental Health Technologist
- Health Educator
- Medical Secretary
- Medical Technologist
- Mental Health Worker
- Nurse, A. S.
- Nurse, B. S.
- Nurse, M. S. (Discontinued 1973)

University of Connecticut-- Storrs

College of Agriculture & Natural Resources
- Pre-Veterinary Medicine

School of Allied Health Professions
- Dietitian, Clinical
- Medical Technologist
- Physical Therapist

School of Business Administration
- Health Care Administrator [4]
- Health Systems Analyst & Planner (Temporarily discontinued)

School of Education
- Health Educator
- Recreation Therapist, B. S., M. S. (Ph. D. proposed)
- Teacher, Special Education [3]

College of Liberal Arts and Sciences
- Clinical Psychologist
- Counselor, Rehabilitation Services, MA
- Rehabilitation Services, B. A.
- Speech Pathologist & Audiologist, MA

School of Nursing
- Nurse, B. S.
- Nurse, M. S.
- Continuing Education for RNs

School of Pharmacy
- Pharmacist [3]

University of Connecticut-- Hartford

School of Social Work
- Social Worker, M. S. W. [1]

Listing

University of Connecticut Health Center
Farmington
- Dentist[1]
- Physician[1]

University of Connecticut
University—McCook Hospital
- Pediatric Nurse Associate

University of Hartford
- Bachelor's Degree for R. N.
- Medical Technologist
- Nurse, B. S. (Proposed Program)
- Teacher, Special Education

University of New Haven
- Environmental Health Technologist
- Occupational Health & Safety Technician (Occupational Safety & Hygiene)
- Social Welfare Worker

Western Connecticut State College
- Health Educator
- Medical Technologist
- Nurse, B. S. Degree
- Respiratory Therapist
- (Inhalation Therapist—proposed program)

Yale University
School of Medicine
- Physician[1]
- Physician's Associate

Department of Epidemiology and Public Health
- Biostatistician, M. P. H.[3]
- Environmental Health, M. P. H.[3]
- Epidemiologist, M. P. H.[3]
- Health Services Administrator, M. P. H.[3]

School of Nursing
- Nursing, M. S. N.[3]
  - Nurse Midwife
  - Pediatrics
  - Public Health
  - Psychiatric

ADDITIONAL NURSING PROGRAMS IN OTHER INSTITUTIONS

Registered Nurse
- Grace-New Haven School of Nursing (Program to be discontinued in 1975)
- Lawrence and Memorial Hospital
  - Nurse, Anesthetist[1] (Discontinued in 1974)
  - Nurse, Diploma[1] (Discontinued in 1976)
- New Britain General Hospital
- St. Francis Hospital
- St. Mary's Hospital
- St. Raphael Hospital
- St. Vincent's Hospital

Licensed Practical Nurse
- Henry Abbot Regional Technical Vocational School
- Bullard-Havens Regional Vocational Technical School
- E. C. Goodwin Regional Vocational Technical School
- W. F. Kaynor Regional Vocational Technical School
- Norwich Regional Vocational Technical School
- A. I. Prince Regional Vocational Technical School
- Vinal Regional Vocational Technical School
- Eli Whitney Regional Vocational Technical School
- H. C. Wilcox Regional Vocational Technical School (Proposed Program)
- Windham Regional Vocational Technical School
- J. M. Wright Regional Vocational Technical School

MAINE

2 YEAR PUBLIC AND PRIVATE SCHOOLS

Central Maine Vocational-Technical Institute
- Licensed practical nurse

Eastern Maine Vocational-Technical Institute
- Environmental science technician
- Medical laboratory technician
- Licensed practical nurse

Northern Maine Vocational-Technical Institute
- Licensed practical nurse

4 YEAR PUBLIC AND PRIVATE COLLEGES/UNIVERSITIES

Husson College
- Medical secretary

Nasson College
- Medical technologist

University of Maine (Farmington)
- Rehabilitation counselor
- Speech pathologist/audiologist

University of Maine (Orono)
- Dietary technician
- Dietitian/nutritionist
- Environmental engineer
- Medical technologist
- Speech pathologist/audiologist

University of Maine (Augusta)
- Registered nurse, A.D.

University of Maine (Portland)
- Registered nurse, B.S.

Westbrook College
- Medical office assistant
- Registered nurse, A.D.
- Dental Hygienist

ADDITIONAL NURSING PROGRAMS IN OTHER INSTITUTIONS

Registered Nurse
- Eastern Maine Medical Center
- Central Maine General Hospital
- St. Mary's General Hospital
- Mercy Hospital

Licensed Practical Nurse
- St. Joseph Hospital
- Maine School - Portland
- Maine School - Waterville

MASSACHUSETTS

2 YEAR PUBLIC AND PRIVATE SCHOOLS

Bay Path Junior College
- Medical secretary

Becker Junior College
- Medical secretary

Berkshire Community College
- Environmental science aide
- Registered nurse, A.D.

Bristol Community College
- Dental hygienist
- Medical laboratory technician
- Mental health assistant
- Registered nurse, A.D.

Cape Cod Community College
- Dental hygienist
- Registered nurse

Dean Junior College
- Medical secretary

Fisher Junior College
- Vision care technician

Greenfield Community College
- Environmental science technician
- Mental health assistant
- Registered nurse, A.D.

Holyoke Community College
- Environmental science technician
- Medical records technician
- Registered nurse, A.D.
- Radiologic technician

Lasell Junior College
- Registered nurse, A.D.

Massachusetts Bay Community College
- Medical secretary
- Registered nurse, A.D.

Massasoit Community College
- Registered nurse, A.D.

Mount Ida Junior College
- Medical office assistant

Mount Wachusett Community College
- Registered nurse, A.D.

Newton Junior College
- Registered nurse, A.D.

MASSACHUSETTS

2 YEAR PUBLIC AND PRIVATE SCHOOLS (Contd)

North Shore Community College
- Environmental science technician
- Mental health assistant
- Licensed practical nurse
- Radiologic technician
- Physical/occupational therapy assistant
- Registered nurse, A.D.

Northern Essex Community College
- Dental hygienist
- Inhalation therapist
- Medical records technician
- Registered nurse, A.D.
- Radiologic technician

Quinsigamond Community College
- Dental assistant
- Dental hygienist
- Inhalation therapist
- Mental health assistant
- Registered nurse, A.D.
- Radiologic technician

Springfield Technical Community College
- Biomedical engineering technician
- Dental assistant
- Dental hygienist
- Environmental science technician
- Medical laboratory assistant
- Medical laboratory technician
- Inhalation therapist
- Medical office assistant
- Mental health assistant
- Registered nurse, A.D.
- Surgical technician
- Radiologic technician
- Physical therapy assistant

Worcester Junior College
- Medical laboratory technician

4 YEAR PUBLIC AND PRIVATE COLLEGES/UNIVERSITIES

American International College
- Medical technologist

Anna Maria College Women
- Medical technologist

Assumption College
- Rehabilitation counselor

Atlantic Union College
- Medical technologist
- Registered nurse, A.D.

Boston College
- Registered nurse, B.S.

Boston University
- Dental assistant
- Exercise physiologist
- Occupational therapist
- Physical therapist
- Rehabilitation counselor
- Registered nurse, B.S.
- Speech pathologist/audiologist

College Our Lady of Elms
- Medical technologist

Eastern Nazarene College
- Medical technologist

Emerson College
- Speech pathologist/audiologist

Fitchburg State College
- Medical technologist
- Registered nurse, B.S.

Framingham State College
- Dietitian/Nutritionist
- Medical technologist

Lowell State College
- Medical technologist
- Registered nurse, B.S.

Lowell Technological Institution
- Radiation health specialist
- Radiation health technician

Mass Institute of Technology
- Biomedical engineer
- Dietitian/nutritionist

Merrimac College
- Medical technologist

North Adams State College
- Medical technologist

Northeastern University
- Dental assistant
- Dental hygienist
- Medical laboratory assistant
- Medical technologist
- Radiologic administrator/educator
- Radiologic technician
- Physical therapist
- Recreation therapist
- Rehabilitation Counselor

MASSACHUSETTS

4 YEAR PUBLIC AND PRIVATE COLLEGES/UNIVERSITIES (Contd)

Northeastern University (Contd)
- Registered nurse, A.D.
- Registered nurse, B.S.
- Speech Pathologist/audiologist

Salem State College
- Registered nurse, B.S.

Simmons College
- Registered nurse, B.S.

Springfield College
- Medical technologist
- Recreation therapist
- Rehabilitation counselor
- Health educator

Sthestn Massachusetts University
- Medical technologist
- Registered nurse, B.S.

Stonehill College
- Medical technologist

Suffolk University
- Medical technologist

Tufts University
- Dietitian/ nutritionist
- Occupational therapist

University of Massachusetts
- Health services administrator
- Dietitian/nutritionist
- Environmental health specialist
- Laboratory clinician
- Medical technologist
- Medical technology educator
- Biostatistician
- Recreation therapist
- Registered nurse, B.S.
- Speech pathologist/audiologist
- Health educator

ADDITIONAL NURSING PROGRAMS IN OTHER INSTITUTIONS

Registered Nurse
- Beverly Hospital
- Catherine Laboure School
- Children's Hospital
- City of Boston Department of Health and Hospitals
- Faulkner Hospital
- Massachusetts General Hospital
- New England Baptist Hospital
- New England Deaconess Hospital
- Peter Bent Brigham Hospital
- St. Elizabeth's Hospital
- Brockton Hospital
- Mt. Auburn Hospital
- Whidden Memorial Hospital
- Fall River Diploma School of Nursing
- St. Anne's Hospital
- Truesdale Hospital
- Union Hospital
- Burbank Hospital
- Framingham Union Hospital
- Holyoke Hospital
- Lawrence General Hospital
- Leominster Hospital
- Lowell General Hospital
- Lynn Hospital
- Malden Hospital
- Lawrence Memorial Hospital
- Melrose-Wakefield Hospital
- St. Luke's Hospital
- Newton-Wellesley Hospital
- Cooley Dickinson Hospital
- St. Luke's School of Nursing of Berkshire Medical Center
- Quincy City Hospital
- Salem Hospital
- Somerville Hospital
- Mercy Hospital
- Springfield Hospital Medical Cent
- Memorial Hospital
- St. Vincent's Hospital
- Worcester City Hospital
- Worcester Hahnemann Hospital

Licensed Practical Nurse
- Beverly Hospital
- Boston Trade High School for Girl
- City of Boston Department of Hea and Hospitals
- Shepard-Gill School, Massachuse General Hospital
- Upper Cape Cod Regional Vocatio Technical School
- Youville Hospital
- Soldiers' Home
- Diman Regional Vocational-Techn School
- Montachusett Regional Vocational Technical School

Massachusetts Department of Mental Health
- Norfolk Division
- Pioneer Valley Division
- Middlesex Division
- Assabet Valley Division

MASSACHUSETTS

ADDITIONAL NURSING PROGRAMS IN OTHER INSTITUTIONS (Cont'd)

Licensed Practical Nurse (Condt)
- South Middlesex Regional Vocational-Technical School
- Gardner State Hospital
- Addison Gilbert Hospital
- Essex Agricultural and Technical Institute
- Haverhill Trade High School
- Holyoke Trade High School
- Lemuel Shattuck Hospital
- Leominister Trade High School
- Lowell Trade High School
- Charles H. McCann Vocational-Technical School
- Smith's Vocational High School
- Henry O. Peabody School for Girls
- Pittsfield Vocational High School
- Quincy Vocational-Technical School
- North Shore Children's Hospital
- Southeastern Regional Vocation-Technical School
- Springfield Trade High School
- Taunton Vocational High School
- Tewksbury Hospital
- Northeast Metropolitan Regional Vocational School
- Pondville Hospital
- Waltham Vocational-Technical School
- Greater Lawrence Regional Technical Institute
- Western Massachusetts Hospital
- Winthrop Community Hospital
- David Hole Fanning Trade High School

NEW HAMPSHIRE

2 YEAR PUBLIC AND PRIVATE SCHOOLS

Colby Junior College for Women
- Bistology/cytology technician
- Medical laboratory technician
- Medical technologist
- Medical office assistant
- Medical secretary
- Medical records technician
- Surgical technician
- Vision care technician

New Hampshire Technical Institute
- Dental assistant
- Dental hygienist
- Registered nurse, A.D.
- Radiologic technician

New Hampshire Vocational-Technical College (Berlin)
- Licensed practical nurse

New Hampshire Vocational-Technical College (Claremont)
- Licensed practical nurse

New Hampshire Vocational-Technical College (Portsmouth)
- Licensed practical nurse

4 YEAR PUBLIC AND PRIVATE COLLEGES/ UNIVERSITIES

Belknap College
- Medical laboratory technician

Mount Saint Mary College
- Dietitian/nutritionist

Notre Dame College
- Medical technologist

River College
- Medical technologist

St. Anselms College
- Registered nurse, B.S.

University of New Hampshire
- Dietitian/nutritionist
- Medical technologist
- Occupational therapist
- Registered nurse, B.S.
- Speech Pathologist/audiologist

ADDITIONAL NURSING PROGRAMS IN OTHER INSTITUTIONS

Registered Nurse
- St. Louis Hospital
- Concord Hospital
- New Hampshire Hospital
- Mary Hitchcock Memorial Hospital
- Elliot Community Hospital
- Elliot Hospital
- Sacred Heart Hospital

Licensed Practical Nurse
- St. Joseph's Hospital

ADDITIONAL NURSING PROGRAMS IN OTHER INSTITUTIONS (Contd)

Registered Nurse (Contd)
- Cooper Hospital
- Helene Fuld School-West Jersey Hospital
- Our Lady of Lourdes School
- East Orange General Hospital
- Elizabeth General Hospital and Dispensary
- Englewood Hospital
- Hackensack Hospital
- St. Mary's Hospital
- Christ Hospital
- St. Francis Community Health Center
- Mountainside Hospital
- Ann May School - Jersey Shore Medical Center
- St. Peters General Hospital
- Essex County Community College
- Orange Memorial Hospital School - Hospital Center at Orange
- St. Joseph's Hospital
- Charles E. Gregory School - Perth Amboy General Hospital
- Muhlenberg Hospital
- Holy Name Hospital
- Helene Fuld School of Nursing of New Jersey
- Mercer Hospital
- St. Francis Hospital

Licensed Practical Nurse
- Atlantic City High School Technical Center
- Bayonne High School
- Cumberland County Vocational School
- Camden High School
- Cape May County Vocational-Technical Institute
- Morris County Vocational School
- Burr D. Coe Vocational-Technical High School
- Hunterdon Central High School
- Monmouth County Vocational School District
- Jersey City Board of Education
- Jersey City Job Corps Center for Women
- St. Barnabas Medical Center
- Atlantic County Vocational MDTA
- Millville Senior High School
- Morristown High School
- Burlington County Vocational and Technical Schools
- Essex County Adult Technical School
- New Careers Program
- Newark Skills Center-MDTA
- Sussex County Vocational-Technical School
- Bergen Pines County Hospital
- Salem County Technical Institute
- Camden County Vocational-Technical School
- Princeton Hospital
- Somerset County Vocational-Technical School No. 2 Annex
- Union County Technical Institute
- Overlook Hospital
- Holy Name Hospital
- Ocean County Vocational-Technical School
- Mercer County Vocational School
- Vineland High School
- Warren County Vocational School and Technical Institute
- Passaic County Technical and Vocational High School
- Middlex County Vocational-Technical High School

2 YEAR PUBLIC AND PRIVATE SCHOOLS

Adirondack Community College
- Medical laboratory technician
- Medical secretary
- Registered nurse, A.D.
- Hospital and institutional services
- Medical emergency services

Auburn Community College
- Medical laboratory technician

Borough of Manhattan Community College
- Medical emergency technician
- Registered nurse, A.D.
- Inhalation therapist
- Medical records technician
- Mental health assistant

Bronx Community College
- Medical laboratory technician
- Registered nurse, A.D.

Broome Technical Community College
- Dental hygienist
- Environmental science technician
- Medical laboratory technician
- Inhalation therapist
- Medical office assistant
- Medical records technician
- Registered nurse, A.D.
- Radiologic technician
- Medical emergency services
- Nursing services

Cazenovia College
- Medical Secretary

NEW JERSEY

2 YEAR PUBLIC AND PRIVATE SCHOOLS

Alphonsus College
- Inhalation therapist

Atlantic Community College
- Medical laboratory technician
- Inhalation therapist
- Medical office assistant
- Medical records technician
- Medical secretary
- Registered nurse, A.D.
- Vision care technician
- Radiologic technician
- Physical therapy assistant

Bergen Community College
- Dental hygienist
- Medical laboratory assistant
- Medical laboratory technician
- Medical office assistant
- Registered nurse, A.D.
- Radiologic technician
- Nursing services
- Office services (medical and dental)

Brookdale Community College
- Dental assistant
- Dental hygienist
- Medical laboratory technician
- Inhalation therapist
- Registered nurse, A.D.
- Radiologic technician

Camden County College
- Dental hygienist
- Medical laboratory technician
- Veterinary technician
- Optician

County College of Morris
- Medical laboratory technician
- Inhalation therapist
- Registered nurse, A.D.
- Radiologic technician

Cumberland County College
- Environmental science technician
- Registered nurse, A.D.

Felician College
- Registered nurse, A.D.

Gloucester County College
- Registered nurse, A.D.

Mercer County Community College
- Dental assistant
- Registered nurse, A.D.

Middlesex County College
- Dental hygienist
- Registered nurse, A.D.
- Radiologic technician

Ocean County College
- Registered nurse, A.D.

Somerset County College
- Registered nurse, A.D.

Union College
- Registered nurse, A.D.

4 YEAR PUBLIC AND PRIVATE COLLEGES/UNIVERSITIES

Bloomfield College
- Registered nurse, B.S.

Caldwell College
- Medical technologist

College of Saint Elizabeth
- Dietitian/nutritionist

Fairleigh Dickinson University (Rutherford
- Medical technologist

Fairleigh Dickinson University (Teaneck)
- Dental hygienist
- Medical technologist
- Registered nurse, B.S.

Montclair State College
- Health Educator

Paterson State College
- Speech pathologist/audiologist
- Registered nurse, B.S.

Rutgers University (Camden)
- Medical technologist
- Registered nurse, B.S.

Rutgers University (Newark)
- Medical technologist

Seton Hall University
- Registered nurse, B.S.

Trenton State College
- Health educator
- Registered nurse, B.S.

ADDITIONAL NURSING PROGRAMS IN OTHER INSTITUTIONS

Registered Nurse
- Bayonne Hospital and Dispensary
- Clara Maass Memorial Hospital

NEW YORK

2 YEAR PUBLIC AND PRIVATE SCHOOLS (Cont'd)

New York City Community College (Cont'd)
- Optician
- Radiologic technician
- Dental auxiliary services
- Environmental control services
- Hospital and institutional services
- Laboratory services
- Optical and visual care services

Niagara County Community College
- Dental assistant
- Environmental science technician
- Inhalation therapist
- Registered nurse, A.D.

North Country Community College
- Medical secretary
- Mental health assistant
- Licensed practical nurse

Onondaga Community College
- Dental hygienist
- Medical laboratory technician
- Registered nurse, A.D.

Orange County Community College
- Dental assistant
- Medical laboratory technician
- Registered nurse, A.D.
- Radiologic technician
- Occupational therapy assistant
- Physical therapy assistant
- Home care service
- Nursing services

Queensborough Community College
- Biomedical engineering technician
- Medical laboratory technician
- Inhalation therapist
- Registered nurse, A.D.
- Occupational therapy assistant
- Physical therapy assistant

Rockland Community College
- Dental assistant
- Medical laboratory technician
- Inhalation therapist
- Medical secretary
- Mental health assistant
- Registered nurse, A.D.
- Radiologic technician
- Occupational therapy assistant
- Physical therapy assistant
- Recreational therapy technician
- Home care services
- Nursing services

Schenectady County Community College
- Medical secretary
- Nursing services

STATE UNIVERSITY OF NEW YORK AGRICULTURE AND TECHNICAL COLLEGES

Alfred
- Medical laboratory technician
- Medical office assistant
- Medical records technician
- Dietary technician
- Registered nurse, A.D.
- Physical/occupational therapy assistant

Canton
- Registered nurse, A.D.
- Nursing services

Cobleskill
- Office services (medical and dental)

Delhi
- Health administrative assistant
- Environmental science technician
- Medical laboratory technician
- Inhalation therapist
- Medical records technician
- Medical secretary
- Dietary technician
- Veterinary technician
- Licensed practical nurse
- Registered nurse, A.D.
- Radiologic technician
- Occupational therapy assistant
- Physical therapy assistant
- Medical emergency services

Farmingdale
- Dental hygienist
- Registered nurse, A.D.

Morrisville
- Environmental science technician
- Medical laboratory technician
- Inhalation therapist
- Physician's assistant
- Home health aide
- Licensed practical nurse
- Registered nurse, A.D.
- Medical emergency services

Staten Island Community College
- Dental assistant
- Environmental science technician
- Medical laboratory technician
- Orthopedic assistant
- Medical office assistant
- Registered nurse, A.D.

NEW YORK

2 YEAR PUBLIC AND PRIVATE SCHOOLS (Contd)

Columbia-Greene Community College
- Mental health assistant
- Medical emergency services

Community College of the Finger Lakes
- Registered nurse, A.D.

Corning Community College
- Environmental science technician
- Medical laboratory technician
- Medical secretary
- Registered nurse, A.D.
- Medical emergency services

Dutchess Community College
- Dental assistant
- Medical laboratory technician
- Medical office assistant
- Psychiatric aide
- Registered nurse, A.D.
- Radiologic technician
- Medical emergency services
- Nursing services

Erie Community College
- Dental assistant
- Dental hygienist
- Dental laboratory technician
- Medical laboratory technician
- Inhalation therapist
- Medical office assistant
- Registered nurse, A.D.
- Optician
- Radiologic technician
- Occupational therapy assistant
- Physical therapy assistant

Fulton-Montgomery Community College
- Registered nurse, A.D.

Genesee Community College
- Medical laboratory technician
- Registered nurse, A.D.
- Radiologic technician

Herkimer County Community College
- Environmental science technician
- Medical laboratory assistant
- Medical laboratory technician
- Medical emergency services

Hostos Community College
- Registered nurse, A.D.

Hudson Valley Community College
- Dental assistant
- Dental hygienist
- Medical laboratory technician
- Inhalation therapist
- Registered nurse, A.D.
- Radiologic technician
- Medical emergency services

Jamestown Community College
- Medical laboratory technician
- Registered nurse, A.D.
- Medical emergency services

Jefferson Community College
- Medical laboratory technician
- Registered nurse, A.D.
- Medical emergency services

Junior College of Albany
- Registered nurse, A.D.

Kingsborough Community College
- Environmental science technician
- Mental health assistant
- Registered nurse, A.D.

Maria College of Albany
- Medical laboratory technician
- Medical records technician
- Medical secretary
- Registered nurse, A.D.
- Occupational therapy assistant
- Physical therapy assistant

Mohawk Valley Community College
- Medical secretary
- Registered nurse, A.D.
- Dental auxiliary services
- Office services (medical and dental)

Monroe Community College
- Biomedical engineering technician
- Dental hygienist
- Environmental science technician
- Medical laboratory technician
- Physician's assistant
- Medical records technician
- Registered nurse, A.D.
- Radiologic technician
- Physical therapy assistant

Nassau Community College
- Medical laboratory technician
- Inhalalation therapist
- Surgical technician
- Physical therapy assistant
- Registered nurse, A.D.

New York City Community College
- Dental hygienist
- Dental laboratory technician
- Environmental science technician
- Medical laboratory technician
- Registered nurse, A.D.

NEW YORK

2 YEAR PUBLIC AND PRIVATE SCHOOLS (Cont'd)

Suffolk County Community College
- Biomedical engineering technician
- Dental assistant
- Medical laboratory technician
- Medical office assistant
- Registered nurse, A.D.
- Surgical technician
- Optician
- Radiologic technician
- Physical therapy assistant
- Recreational therapy technician

Sullivan County Community College
- Environmental science technician
- Medical laboratory technician

Tompkins-Cortland Community College
- Dental assistant
- Licensed practical nurse

Trocaire College
- Medical laboratory technician
- Registered nurse, A.D.
- Radiologic technician

Ulster County Community College
- Environmental science aide
- Medical laboratory technician
- Medical secretary
- Registered nurse, A.D.

Villa Maria College of Buffalo
- Medical secretary

Westchester Community College
- Environmental science aide
- Medical laboratory technician
- Inhalation therapist
- Medical office assistant
- Radiologic technician
- Medical emergency services

4 YEAR PUBLIC AND PRIVATE COLLEGES/UNIVERSITIES

Adelphi
- Registered nurse, B.S.

Alfred University
- Registered nurse, B.S.

Albany College Pharmacy
- Medical technologist

College of Saint Rose
- Speech pathologist/audiologist

Columbia U Tchrs College
- Dietitian/nutritionist
- Speech pathologist/audiologist

Columbia University
- Occupational therapist
- Physical therapist
- Registered nurse, B.S.

Cornell University
- Health services administrator
- Dietitian/nutritionist
- Registered nurse, B.S.

CUNY Brooklyn College
- Dietitian/nutritionist
- Speech pathologist/audiologist
- Health educator

CUNY Herbert Lehman College
- Registered nurse, B.S.

CUNY Hunter College
- Medical records librarian
- Environmental health specialist
- Medical technologist
- Medical computer specialist
- Physical therapist
- Health educator

CUNY Richmond College
- Medical technologist

CUNY Mt. Sinai School of Nursing
- Registered nurse, B.S.

D'Youville College
- Medical records librarian
- Registered nurse, B.S.

Elmira College
- Speech pathologist/audiologist

Hartwick College
- Medical technologist
- Registered nurse, B.S.

Hofstra University
- Speech pathologist/audiologist

Hunter College-Bellevue
- Registered nurse, B.S.

Ithaca College
- Health services administrator
- Registered nurse, B.S.
- Physical therapist

NEW YORK

4 YEAR PUBLIC AND PRIVATE COLLEGES/UNIVERSITIES (Cont'd)

Keuka College
- Registered nurse, B.S.

Long IS U Connolly College
- Registered nurse, B.S.

Long IS U Brooklyn Center
- Medical technologist
- Physician assistant - primary care

Long IS U C W Post Center
- Medical technologist

Manhattan College
- Medical radiation specialist

Marymount College
- Dietitian/nutritionist

Mercy College
- Medical technologist

Molloy College
- Registered nurse, B.S.

Mt. St. Mary's College
- Registered nurse, B.S.

New York Medical College
- Registered nurse, M.S.

New York University
- Inhalation therapist
- Dental hygienist
- Occupational therapist
- Orthotist/prosthetist
- Physical therapist
- Registered nurse, B.S.
- Physical therapy assistant
- Health educator

Niagara University
- Registered nurse, B.S.

Pace College
- Medical technologist
- Registered nurse, A.D.

Westchester College
- Registered nurse, A.D.

Polytechnic Institute Brooklyn
- Biomedical engineer

Pratt Institute
- Dietitian/nutritionist

Rensselaer Poly Institute
- Environmental engineer

Roberts Wesleyan College
- Registered nurse, B.S.

Rochester Inst Technology
- Dietary technician
- Dietitian/nutritionist
- Medical laboratory technician
- Medical technologist
- Biomedical photographer

Rosary Hill College
- Medical records librarian
- Medical technologist

Russell Sage College
- Physical therapist
- Registered nurse, B.S.

Saint John's University
- Toxicologist

Sarah Lawrence College
- Genetic counselor

Skidmore
- Registered nurse, B.S.

SUNY at Albany
- Registered nurse, B.S.

SUNY at Binghamtom
- Registered nurse, B.S.

SUNY College at Brockport
- Health educator
- Registered nurse, B.S.

SUNY College at Buffalo
- Dietitian/nutritionist
- Registered nurse, B.S.

SUNY College at Cortland
- Health educator

SUNY College at Fredonia
- Speech pathologist/audiologist

SUNY College at New Paltz
- Speech Pathologist/audiologist

SUNY College at Oneonta
- Dietitian/nutritionist

Listing

NEW YORK

4 YEAR PUBLIC AND PRIVATE COLLEGES/UNIVERSITIES (Contd)

SUNY College Plattsburgh
- Medical technologist
- Registered nurse, B.S.

SUNY Downstate Medical Center
- Dietitian/nutritionist
- Medical technologist
- Nurse-midwife
- Medical computer specialist
- Radiologic administrator/educator
- Registered nurse, A.D.
- Registered nurse, B.S.
- Occupational therapist
- Physical therapist
- Laboratory animal technologist

SUNY Health Science Center Buffalo
- Medical technologist
- Occupational therapist
- Physical therapist
- Allied health professions educator
- Health educator

SUNY Health Science Center Stony Brook
- Cardiopulmonary technologist/ respiratory therapist
- Registered nurse, B.S.

SUNY St U Buffalo
- Health educator

SUNY Upstate Medical Center
- Inhalation therapist
- Cytotechnologist
- Medical technologist
- Medical radiation specialist
- Radiologic technician
- Physical therapist

Syacuse University
- Dietitian/nutrionist
- Environmental engineer
- Registered nurse, B.S.
- Environmental health specialist
- Rehabilitation counselor
- Health educator

University of Rochester
- Cytotechnologist
- Registered nurse, B.S.
- Radiologic tecnician

Utica College
- Medical technologist
- Occupational therapist

Wagner College
- Health services administrator
- Laboratory clinician
- Medical technologist
- Registered nurse, B.S.

ADDITIONAL NURSING PROGRAMS IN OTHER INSTITUTIONS

Registered Nurse
- Albany Medical Center
- Memorial Hospital
- St. Mary's Hospital
- Auburn Memorial Hospital
- Binghamton General Hospital
- Buffalo General Hospital
- Deaconess Hospital
- Edward J. Meyer Memorial Hospital
- Millord Fillmore Hospital
- Binghamton State Hospital

- Sisters of Charity Hospital of Buffalo
- Central Islip State Hospital
- Arnot Ogden Memorial Hospital
- St. Joseph's Hospital
- Gowanda State Hospital
- St. James Mercy Hospital
- Columbia Memorial Hospital
- Charles S. Wilson Memorial Hospital
- Kings Park State Hospital
- Marcy State Hospital
- Middletown State Hospital
- Mt. Vernon Hospital
- New Rochelle Hospital
- Misericordia Hospital
- Jewish Hospital and Medical Center of Brooklyn
- Kings Couty Hospital Center
- Long Island College Hospital
- St. John's Episcopal Hospital
- Beth Israel Medical Center
- Harlem Hospital Center
- Helene Fuld School of Nursing of the Hospital for Joint Diseases
- Lenox Hill Hospital
- Roosevelt Hospital
- St. Clare's Hospital and Health Center
- St. Luke's Hospital
- St. Vincent's Hospital
- Flushing Hospital and Medical Center
- Catholic Medical Center of Brooklyn and Queens, Inc.
- Queens Hospital Center
- Creedmoor State Hospital
- St. Vincent's Medical Center of Richmond
- St. Lawrence State Hospital
- Rockland State Hospital
- Champlain Valley Physicians Hospital
- Rowena L. Teagle School of Nursing of United Hospital
- Hudson River State Hospital
- Vassar Brothers Hospital

ADDITIONAL NURSING PROGRAMS IN OTHER INSTITUTIONS (Cont'd)

Registered Nurse (Cont'd)
- Genesee Hospital
- Highland Hospital
- Rochester State Hospital
- Ellis Hospital
- Craig State School
- Crouse-Irving Memorial Hospital
- St. Joseph's Hospital Health Center
- Samaritan Hospital
- St. Elizabeth Hospital
- Utica State Hospital
- Westchester School of Grasslands Hospital
- Pilgrim State Hospital
- Willard State Hospital
- Harlem Valley State Hospital
- Cochran School - St. John's Riverside Hospital

Licensed Practical Nurse
- Albany Board of Education, MDTA
- Albany School
- Albany Vocational Center
- Amsterdam School, MDTA
- Cayuga County Program
- Catherine McAuley Program, St. Jerome Hospital
- Steuben Couty BOCES Program
- Binghamton School
- Buffalo School, Board of Education, MDTA
- Edna G. Dyett School, Millard Fillmore Hospital
- Erie County BOCES, First Supervisory District
- Fosdick-Masten Vocational High School
- Mary McClellan Hospital
- Lewis A. Wilson Technological Program MDTA
- Geneva School, Geneva General Hospital
- Community Hospital at Glen Cove
- Lewis County Area Program
- Glens Falls Hospital
- Voc. Educ. and Ext. Board, Nassau County School, MDTA
- Hornell School, MDTA
- Jamestown School
- Nassau County BOCES Program
- BOCES Hamilton-Fulton and Montgomery County Program
- Ulster County BOCES School
- Orleans and Niagara County Program
- Oswego BOCES School
- Orange County School, MDTA and BOCES
- Herkimer County BOCES Program
- Sullivan County Program
- New Rochelle High School, MDTA
- Dodge Vocational High School
- Jane Addams Vocational High School
- Morris High School, School of Practical Nursing for Boys
- Brooklyn YWCA School
- Caledonion Hospital
- Clare Barton Vocational High School
- Eli Whitney Vocational High School
- New York City Board of Education Program, MDTA
- Wyckoff Heights Hospital
- Central School
- Columbia Presbyterian School
- Helene Fuld School, Hospital for Joint Diseases
- Hospital for Special Surgery
- Julia Richman High School

- Mabel Dean Bacon Vocational High School
- Washington Irving High School
- Hillcrest High School
- Queens Vocational High School
- Curtis High School
- Newburgh Free Academy
- Trott Vocational High School
- Phelps Memorial Hospital
- North Tonawanda School, MDTA
- St. Lawrence County BOCES Program
- St. Francis Hospital
- Otsego Area School
- Mid-Suffolk High School
- John W. Harrold Education Center
- Dutchess County BOCES Program
- Poughkeepsie School, Board of Education, MDTA
- Eastern Suffolk School-MDT,
- Riverhead Area Occupational Education
- Isabella Graham Hart School, Rochester General Hospital
- Rochester Manpower Skill Center
- Rochester School
- State University Urban Center-Rochester
- Saratoga County Occupational Education Program
- Schenectady Cooperative Program
- Newfield High School
- Finger Lakes Occupational School
- Syracuse Central High School
- Syracuse School, MDT 1
- Rensselaer County BOCES Program
- Utica BOCES Program, Area Occupational Center
- Utica Manpower Development School
- Utica School
- Grasslands School, Grasslands Hospital
- Mid-Westchester Program

NEW YORK

ADDITIONAL NURSING PROGRAMS IN OTHER INSTITUTIONS (Cont'd)

Licensed Practical Nurse (Cont'd)
- Madison and Oneida County BOCES Program
- Jefferson Vocational-Technical School
- Watertown School, MDTA
- Rockland County BOCES School
- East Meadow W. Tresper Clarke High School
- White Plains School
- Wayne-Finger Lakes BOCES Program
- St. Joseph's Hospital
- Yonkers Board of Education
- BOCES Sale Supervisory District of Putnam-Westchester County Program

PENNSYLVANIA

2 YEAR PUBLIC AND PRIVATE SCHOOLS

Bucks County Community College
- Medical secretary
- Registered nurse, A.D.

Butler County Community College
- Licensed practical nurse
- Registered nurse, A.D.

COMMUNITY COLLEGE OF ALLEGHENY COUNTY

Allegheny Campus
- Medical laboratory technician
- Inhalation therapist
- Medical office assistant
- Medical records technician
- Dietary technician
- Registered nurse, A.D.

Boyce Campus
- Dental laboratory technician
- Registered nurse, A.D.

South Campus
- Registered nurse, A.D.

Community College of Beaver County
- Dental assistant
- Dental hygienist
- Medical secretary
- Mental health assistant
- Licensed practical nurse
- Registered nurse, A.D.

Community College of Delaware County
- Dental hygienist
- Mental health assistant
- Registered nurse, A.D.

Community College of Philadelphia
- Health administrative assistant
- Inhalation therapist
- Medical records technician
- Medical secretary
- Mental health assistant
- Registered nurse, A.D.

Harcum Junior College
- Medical office assistant

Harrisburg Area Community College
- Medical laboratory technician
- Medical secretary
- Mental health assistant
- Registered nurse, A.D.

LeHigh County Community College
- Dental assistant
- Medical office assistant
- Licensed practical nurse
- Registered nurse, A.D.
- Occupational therapy assistant
- Physical therapy assistant

Manor Junior College
- Medical office assistant

Montgomery County Community College
- Dental hygienist
- Medical secretary
- Registered nurse, A.D.

Mount Aloysius Junior College
- Medical laboratory technician
- Medical records technician
- Medical secretary
- Mental health assistant
- Dietary technician
- Registered nurse, A.D.
- Occupational therapy assistant

Northampton County Area Community College
- Dental hygienist
- Medical laboratory technician
- Registered nurse, A.D.
- Mental health and psychiatric services

PENNSYLVANIA

2 YEAR PUBLIC AND PRIVATE SCHOOLS (Contd)

Peirce Junior College
- Medical office assistant
- Mental health assistant
- Registered nurse, A.D.

Penn Hall Junior College
- Medical secretary

Spring Garden College
- Medical laboratory technician

Williamsport Area Community College
- Licensed practical nurse
- Surgical technician

4 YEAR PUBLIC AND PRIVATE COLLEGES/UNIVERSITIES

Albright College
- Medical technologist
- Registered nurse, B.S.

Beaver College
- Medical technologist

Bloomsburg State College
- Medical technologist
- Speech pathologist/audiologist

California State College
- Dental hygienist
- Medical technologist
- Speech pathologist/audiologist

Carlow College
- Medical technologist
- Registered nurse, B.S
- Speech pathologist/audiologist

Carnegie-Mellon University
- Biomedical Engineer

Cedar Crest College
- Medical technologist

Clarion State College
- Speech pathologist/audiologist
- Registered nurse, A.D.

College Misericordia
- Dietitian/nutrionist
- Registered nurse, B.S.

Drexel University
- Biomedical Engineer
- Dietitian/nutritionist
- Environmental engineer
- Medical librarian

Duquesne University
- Medical technologist
- Registered nurse, B.S.

East Stroudsburg State College
- Speech pathologist/audiologist

Eastern Baptist College
- Medical technologist

Edinboro State College
- Dental hygienist
- Speech pathologist/audiologist
- Registered nurse, B.S.

Elizabethtown College
- Medical technologist

Gannon College
- Medical technologist

Geneva College
- Medical technologist

Gwynedd-Mercy College
- Medical secretary
- Medical technologist
- Registered nurse, A.D.

Hahnemann Medical Center and Hospital
- Cytotechnologist
- Medical laboratory technician
- Medical technologist
- Mental health technologist
- Art therapist

Holy Family College
- Medical technologist
- Registered nurse, B.S.

Immaculata College
- Dietitian/nutritionist

Indiana University of Pennsylvania
- Inhalation therapist
- Dental hygienist
- Dietitian/nutritionist
- Medical technologist
- Registered nurse, B.S.

Lebanon Valley College
- Medical technologist

Lycoming College
- Medical technologist

Mansfield State College
- Medical technologist

PENNSYLVANIA

4 YEAR PUBLIC AND PRIVATE COLLEGES/UNIVERSITIES (Contd)

Marywood College
- Dietitian/nutritionist
- Medical technologist

Messiah College
- Medical technologist

Millersville State College
- Dental hygienist
- Medical technologist

Moravian College
- Medical technologist

Our Lady of Angels College
- Registered nurse, B.S.

P.M.C. Colleges
- Registered nurse, B.S.

Pennsylvania State University
- Dietitian/nutritionist
- Environmental engineer
- Laboratory clinician
- Medical technologist
- Exercise physiologist
- Registered nurse, B.S.
- Rehabilitation counselor
- Speech pathologist/audiologist
- Health educator

Philadelphia College Phar & Sci
- Medical technologist

Point Park College
- Medical technologist

Saint Francis College
- Medical technologist

Seton Hill College
- Dietitian/nutritionist

Shippensburg State College
- Medical technologist

Temple University
- Health services administrator
- Medical records librarian
- Dental hygienist
- Medical technologist
- Occupational therapist
- Physical therapist
- Registered nurse, B.S.
- Speech pathologist/audiologist
- Health educator

The Medical College of Pennsylvania
- Medical laboratory assistant

Thiel College
- Medical technologist
- Physical therapist

Thomas Jeff University
- Cytotechnologist
- Licensed practical nurse (12 and 21 mos program)
- Registered nurse, diploma
- Histology technician
- Medical technologist

University of Pennsylvania
- Biomedical engineer
- Dental hygienist
- Medical technologist
- Radiologic technician
- Occupational therapist
- Physical therapist
- Registered nurse, B.S.

University of Pittsburgh
- Dental assistant
- Dental hygienist
- Medical technologist
- Physical therapist
- Registered nurse, B.S.

University of Scranton
- Rehabilitation counselor

Villa Maria College
- Dietitian/nutritionist
- Registered nurse, B.S.
- Medical technologist

Villa Nova University
- Registered nurse, B.S.

Waynesburg College
- Medical technologist

West Chester State College
- Dental hygienist
- Health educator

York College Pennsylvania
- Medical records librarian
- Inhalation therapist
- Medical technologist

PENNSYLVANIA

ADDITIONAL NURSING PROGRAM IN OTHER INSTITUTIONS

Registered Nurse

- Abington Memorial Hospital
- Allentown Hospital Association
- Sacred Heart Hospital
- Altoona Hospital
- Mercy Hospital
- Ashland State General Hospital
- United Hospital School of Nursing
- St. Luke's Hospital
- Braddock General Hospital
- Bryn Mawr Hospital
- Butler County Memorial Hospital
- St. Joseph's Hospital
- Coatesville Hospital
- Geisinger Medical Center
- Mercy Catholic Medical Center-Fitzgerald Mercy Division
- Easton Hospital
- Hamot Hospital
- St. Vincent's Hospital
- Westmoreland Hospital
- Harrisburg Hospital
- Harrisburg Polyclinic Hospital
- Hazleton State General Hospital
- Indiana Hospital
- Conemaugh Valley Memorial Hospital
- Mercy Hospital
- Nesbitt Memorial Hospital
- Lancaster General Hospital
- St. Joseph's Hospital
- Ohio Valley General Hospital
- McKeesport Hospital
- Meadville City Hospital
- Spencer Hospital
- Allegheny Valley Hospital
- Jameson Memorial Hospital
- St. Francis Hospital of New Castle
- Citizens General Hospital
- Montgomery Hospital
- Albert Einstein Medical Center
- Chestnut Hill Hospital
- Episcopal Hospital
- Frankford Hospital
- Germantown Dispensary and Hospital
- Hahnemann Medical College and Hospital
- Hospital of the Medical College of Pennsylvania
- Hospital of the University of Pennsylvania
- Lankenau Hospital
- Memorial Hospital of Roxborough
- Methodist Hospital
- Misericordia Hospital
- Northeastern Hospital
- Pennsylvania Hospital
- Philadelphia General Hospital
- Presbyterian-University of Pennsylvania Medical Center
- St. Agnes Hospital
- St. Joseph's Hospital
- Philipsburg State General Hospital
- Columbia Hospital
- Liliane S. Kaufmann School-Montefiore Hospital
- Louis Suydam McClintic School-St. Margaret Memorial Hospital
- Mercy Hospital
- Pittsburgh Hospital
- Presbyterian-University Hospital
- St. Francis General Hospital
- St. John's General Hospital
- St. Joseph's Hospital
- Shadyside Hospital
- South Side Hospital
- Western Pennsylvania Hospital
- Pittston Hospital
- Pottstown Memorial Medical Center
- Pottsville Hospital
- Reading Hospital
- St. Joseph's Hospital
- Rochester General Hospital
- Robert Packer Hospital
- Community Medical Center
- Mercy Hospital
- Scranton State General Hospital
- Grand View Hospital
- Sewickley Valley Hospital
- Sharon General Hospital
- Uniontown Hospital Association
- Washington Hospital
- Chester County Hospital
- Mercy Hospital
- Wilkes-Barre General Hospital
- Williamsport Hospital
- York Hospital

Licensed Practical Nurse

- Altoona Area Vocational-Technical School
- Bethlehem Area Vocational-Technical School
- Carlisle Hospital
- Franklin County Area Vocational-Technical School
- Chester School District
- Clearfield County Area Vocational-Technical School
- Central Chester County Vocational-Technical School
- Danville Area School District
- Camillus Catholic School
- Eastern Northampton County Area Vocational-Technical School

PENNSYLVANIA

ADDITIONAL NURSING PROGRAM IN OTHER INSTITUTIONS (Contd)

Licensed Practical Nurse (Contd)
- School District of the City of Erie
- Bucks County Technical School
- Greensburg-Salem School District
- Hanover Borough School District
- Harrisburg Steelton Highspire Area Vocational-Technical School
- Hazleton Area Vocational-Technical School
- Fayette County Area Vocational-Technical School
- Indiana Area School District
- Carbon County Area Vocational-Technical School
- Greater Johnstown School District
- North Montco Area Vocational-Technical School
- Lebanon County Area Vocational-Technical School
- Juniata-Mifflin Counties Area Vocational-Technical School
- Schuylkill County Area Vocational-Technical School
- Crawford County Area Vocational-Technical School
- Lawrence County Area Vocational-Technical School
- New Kensington-Arnold School District
- Sacred Heart Hospital
- Venango County Area Vocational-Technical School
- Upper Bucks County Area Vocational-Technical School
- Episcopal Hospital
- Lankenau Hospital
- Mercy Catholic Medical Center, Misericordia Division
- Presbyterian-University of Pennsylvania Medical Center
- St. Mary's Hospital
- School District of Philadelphia
- Valley Forge General Hospital
- Alvernia School, St. Francis General Hospital
- Catherine McAuley School, Mercy Hospital
- North Hills Passavant Hospital
- Pittsburgh Public Schools
- Centre County Area Vocational-Technical School
- Reading-Muhlenberg Vocational-Technical School
- Jefferson County-DuBois Area Vocational-Technical School
- Mercedian School, Mercy Hospital
- Scranton School District
- Mercer County Area Vocational-Technical School
- Somerset Area School District
- Torrance State Hospital
- Green County Area Vocational-Technical School
- Wilkes-Barre City Schools
- Eastern Montgomery County Area Vocational-Technical School
- Lancaster County Area Vocational-Technical School
- York County Area Vocational-Technical School

RHODE ISLAND

2 YEAR PUBLIC AND PRIVATE SCHOOLS

Rhode Island Junior College
- Biomedical engineering technician
- Dental assistant
- Medical laboratory technician
- Inhalation therapist
- Registered nurse, A.D.
- Radiologic technician
- Inhalational therapy services
- Nursing services

4 YEAR PUBLIC AND PRIVATE COLLEGES/ UNIVERSITIES

Barrington College
- Medical technologist

Bryant College of Business Administration
- Medical secretary

Johnson and Wales College
- Medical office assistant
- Medical secretary

Rhode Island College
- Medical technologist
- Registered nurse, B.S.

Salve Regina College
- Medical technologist
- Registered nurse, B.S.

University of Rhode Island
- Biomedical Engineer
- Inhalation Therapist
- Dental Hygienist

RHODE ISLAND

YEAR PUBLIC AND PRIVATE COLLEGES/UNIVERSITIES (Contd)

University of Rhode Island (Contd)
- Dietitian/nutritionist
- Environmental health specialist
- Laboratory clinician
- Registered nurse, B.S.
- Medical technologist

DDITIONAL NURSING PROGRAMS IN OTHER NSTITUTIONS

Registered Nurse
- Newport Hospital
- Rhode Island Hospital
- Roger Williams General Hospital
- St. Joseph's Hospital

Licensed Practical Nurse
- St. Joseph's Hospital, Our Lady of Fatima Unit
- Rhode Island Vocational-Technical School, Providence Division
- Rhode Island Vocational-Technical School, Warwick Division

VERMONT

2 YEAR PUBLIC AND PRIVATE SCHOOLS

Champlain College
- Medical secretary

St. Joseph College
- Medical office assistant
- Medical secretary

Vermont College
- Medical secretary
- Registered nurse, A.D.

4 YEAR PUBLIC AND PRIVATE COLLEGES/UNIVERSITIES

Castleton State College
- Registered nurse, B.S.

Norwich University
- Environmental Engineer

Trinity College
- Medical technologist

University of Vermont
- Dental hygienist
- Dietitian/nutritionist
- Environmental engineer
- Medical laboratory technician
- Medical technologist
- Radiologic technician
- Registered nurse, B.S.

Vermont College
- Medical technologist

ADDITIONAL NURSING PROGRAMS IN OTHER INSTITUTIONS

Registered nurse
- None listed

Licensed Practical Nurse
- Henry W. Putnam Memorial Hospital
- Thompson School
- Fanny Allen Memorial School

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SELECTED PROFESSIONAL AND HIGHER EDUCATION SCHOOLS IN THE NORTHEAST
INCLUDING ENROLLMENT AND GRADUATES

Health Resources Statistics, 1972-73
U. S. Department of HEW

Table II

	Maine			Massachusetts			New Hampshire			New Jersey			New York			Pennsylvania			Rhode Island			Vermont			Connecticut		
Schools	No.	Enroll	Grads	No.	Enroll	Grads	No.	Enroll	Grads	No.	Enroll	Grads	No.	Enroll	Grads	No.	Enroll	Grads	No.	Enroll	Grads	No.	Enroll	Grads	No.	Enroll	Grads
Medical [b]	0	0	0	4	1503	360	1	105	0	2	431	77	11	4903	1179	7	3301	737	1	30	0	1	268	46	2	465	92
Osteopathy [b]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	572	106	0	0	0	0	0	0	0	0	0
Dental [g]	0	0	0	2	491	115	0	0	0	2	478	94	3	1187	271	3	1582	370	0	0	0	0	0	0	1	92[a]	17
Nursing (RN) [c]	7	849	184	63	9176	2299	10	1031	179	41	5518	1475	128	22821	5851	116	14173	4131	6	1304	354	3	461	177	24	3239	668
LPN [c]	5	219	135	36	1969	1098	4	158	125	34	1687	913	92	6387	3453	59	3056	2299	2	302	186	3	176	174	10	734	634
Dental Auxiliary [c]	1	86	0	13	667	396	1	54	0	7	291	103	17	1211	503	9	521	279	2	100	47	1	61	15	5	228	122
Physical Therapy [f]	0	0	0	3	127[j]	105	0	0	0	0	0	0	7	242[j]	182	3	165[j]	128	0	0	0	0	0	0	2	118[a]	80
Optometry [e]	0	0	0	1	226	44	0	0	0	0	0	0	1	20	0	1	452	111	0	0	0	0	0	0	0	0	0
Pharmacy [d]	0	0	0	3	546	197	0	0	0	1	227	45	6	1006	386	4	1031	306	1	148	52	0	0	0	1	218	67
Podiatry [e]	0	0	0	0	0	0	0	0	0	0	0	0	1	202	47	1	206	44	0	0	0	0	0	0	0	0	0
Veterinary [e]	0	0	0	0	0	0	0	0	0	0	0	0	1	242	59	1	321	74	0	0	0	0	0	0	0	0	0
Institutions of Higher Education [h]	16			118			19			56			219			140			13			17			46		

a. 1973 data. Connecticut Institute for Health Manpower Resources. Study of Educational Programs and Employment Opportunities in Health, 1974.

b. 1970-1971 enrollment and graduates.

c. 1971 enrollment; 1970-71 graduates.

d. 1971-72 enrollment; 1971 graduates

e. 1971-72

f. 1971-72 seniors only; 1971 graduates

g. 1971

h. 1970

j. includes post baccalaureate students

Table III	Conn. pop. (3,081,000)	Maine pop. (1,003,000)	Mass. pop. (5,758,000)	N.H. pop. (762,000)	N.J. pop. (7,300,000)	N.Y. pop. (18,391,000)	Penna. pop. (11,879,000)	R.I. pop. (960,000)	Vermont pop. (458,000)	Total Northeast pop. (49,592,000)(n)
M.D. [b]	5,648	1,030	11,531	968	10,261	41,833	17,419	1,433	770	90,913
D.O. [g]	45	180	234	19	600	520	1,502	76	33	3,209
Chiropractor [b]	119	33	275	150	400	1,300	879	38	40	3,234
Podiatrist [d]	183	22	414	21	365	1,241	703	54	8	3,011
Physical Therapist [k]	404	83	767	81	429	1,135	757	78	47	3,781
R. N. [n]	15,438	4,051	28,743	3,521	24,942	74,280	45,809	3,673	1,863	202,320
L. P. N. [g]	3,677	691	12,469	1,011	8,081	25,293	24,652	1,632	956	78,462
Dentists [b]	1,864	356	3,072	316	4,121	12,595	6,127	432	175	29,058
Optometrist [c]	286	129	788	83	714	1,798	1,287	144	48	5,277
Pharmacist [a]	2,105	475	4,723	362	3,882	13,732	10,559	672	204	36,714
Veterinarian [c]	261	113	421	97	632	1,587	1,036	54	98	4,299
Optician [j]	199	10	473	30	337	1,357	698	66	8	3,178
Psychologist [f]	244	37	437	30	233	1,996	396	57	23	3,453
Speech Pathologist and Audiologist [m]	300	39	417	36	507	1,512	749	50	32	3,642

SOURCE: Health Resources Statistics, 1972-1973, National Center for Health Statistics, U. S. Department of Health, Education, and Welfare

a. Active licensed as of 1972.

b. Active licensed as of 1971.

c. Total licensed as of 1971.

d. Active licensed as of 1970.

e. Total licensed as of 1970.

g. Active licensed as of 1967.

h. Active licensed as of 1966.

j. Total employed as of 1966.

k. Total members of APTA 1972.

m. Total members of American Speech and Hearing Association 1971.

n. Population based on revised estimates for July 1, 1971.

NUMBER OF GENERAL HOSPITALS OFFERING GIVEN SERVICES IN THE NORTHEAST

Table 4

Data Furnished by Bureau of Health Resources Development, Division of Manpower Intelligence, Manpower Resources and Requirements Branch, November 20, 1973
Area Resource File data as of 1969-70.

Northeast Data

	Maine	Massachusetts	New Hampshire	New Jersey	New York	Pennsylvania	Rhode Island	Vermont	Connecticut
Total # of General Hospitals	58	125	29	100	326	239	16	20	40
Intensive Care	22	94	18	82	215	170	14	10	36
Intensive Cardiac	19	57	11	65	161	141	9	10	27
Open Heart Surgery	0	10	1	7	31	24	2	1	6
Recovery Room	43	115	25	91	299	223	15	14	38
Premature Nursery	24	61	13	70	137	163	9	9	28
X-Ray Therapy	13	54	10	54	157	138	8	5	26
Cobalt Therapy	5	15	2	19	74	42	3	1	13
Radium Therapy	10	37	6	56	133	124	8	3	23
Radioisotope Therapy	12	63	10	80	189	140	8	5	32
Histopathology Laboratory	24	90	20	89	253	198	14	9	35
Organ Bank	1	4	2	4	14	7	0	0	4
Blood Bank	44	108	17	92	272	204	16	12	37
Electroencephalography	11	69	9	60	172	101	9	3	27
Physical Therapy	35	108	22	78	242	199	14	14	37
Occupational Therapy	6	28	3	15	87	35	1	3	12
Inhalation Therapy	25	93	18	78	234	171	9	10	35
F-T Reg. Pharmacist	17	108	14	89	264	187	16	10	36
P-T Reg. Pharmacist	34	18	10	11	59	45	1	8	3
Dialysis-Inpatient	2	20	1	18	75	39	1	0	14
Dialysis-Outpatient	2	14	1	15	54	29	0	0	7
Self-Care Unit	1	14	3	12	14	23	3	1	9
Psychiatric Foster Care	0	4	1	1	6	4	1	0	1
Psychiatric-Inpatient	2	17	2	27	60	56	4	2	14
Psychiatric-Outpatient	4	30	2	26	69	57	5	2	26
Psychiatric-Part. Hosp.	3	13	2	7	31	28	2	1	8
Psychiatric-Emergency	8	32	5	21	68	65	2	4	18
Social Work	11	83	9	69	206	138	12	7	29
Family Planning	5	17	4	24	72	32	5	0	13
Extended Care	9	9	4	11	40	26	5	4	5
Rehabilitation-Inpatient	6	20	3	15	66	27	4	2	10
Rehabilitation-Outpatient	8	19	3	21	70	29	4	2	9
Home Care	4	20	1	19	75	33	5	1	4
Hospital Auxiliary	47	112	27	90	254	220	15	19	36
Organized Outpatient Dept.	16	73	11	82	144	139	9	10	28

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CONNECTICUT EDUCATION/EMPLOYMENT STUDY FOR HEALTH MANPOWER

Section I. CONNECTICUT COMMISSION FOR HIGHER EDUCATION PLANNING REGIONS

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6. C.H.E. Planning Region Area - E

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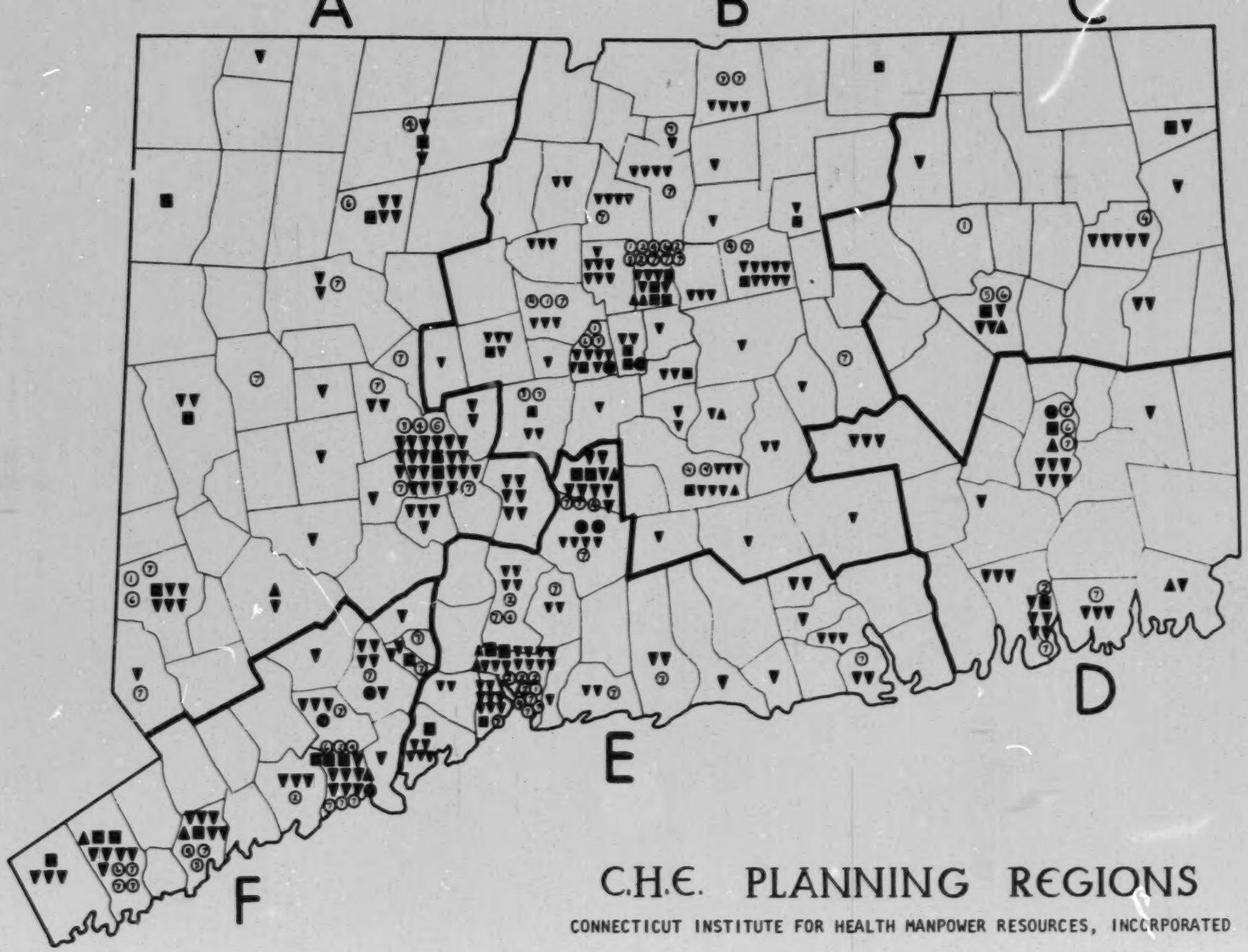
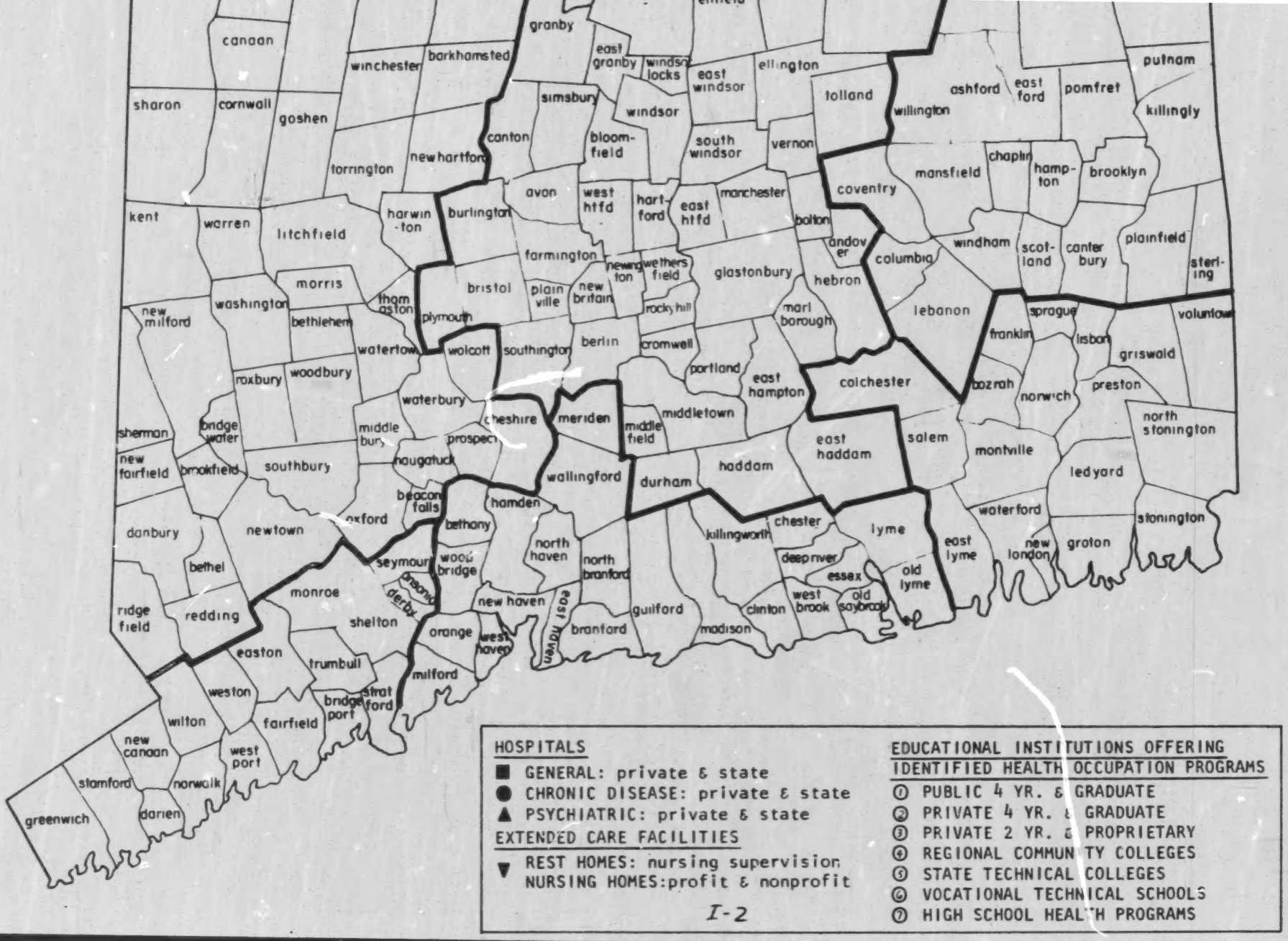


C.H.E. PLANNING REGIONS

CONNECTICUT INSTITUTE FOR HEALTH MANPOWER RESOURCES, INCORPORATED



HOSPITALS

- ■ GENERAL: private & state
- ● CHRONIC DISEASE: private & state
- ▲ PSYCHIATRIC: private & state

EXTENDED CARE FACILITIES

- ▼ REST HOMES: nursing supervision
  NURSING HOMES: profit & nonprofit

EDUCATIONAL INSTITUTIONS OFFERING IDENTIFIED HEALTH OCCUPATION PROGRAMS

1. PUBLIC 4 YR. & GRADUATE
2. PRIVATE 4 YR. & GRADUATE
3. PRIVATE 2 YR. & PROPRIETARY
4. REGIONAL COMMUNITY COLLEGES
5. STATE TECHNICAL COLLEGES
6. VOCATIONAL TECHNICAL SCHOOLS
7. HIGH SCHOOL HEALTH PROGRAMS

CONNECTICUT INSTITUTE FOR HEALTH MANPOWER RESOURCES, INCORPORATED

PLANNING REGION A

HOSPITALS

- ■ GENERAL: private & state
- ● CHRONIC DISEASE: private & state
- ▲ PSYCHIATRIC: private & state

EXTENDED CARE FACILITIES

- ▼ REST HOMES with nursing supervision
  NURSING HOMES: profit & nonprofit

EDUCATIONAL INSTITUTIONS OFFERING IDENTIFIED HEALTH OCCUPATION PROGRAMS

- ① PUBLIC 4 YR & GRADUATE
- ② PRIVATE 4 YR & GRADUATE
- ③ PRIVATE 2 YR & PROPRIETARY
- ④ REGIONAL COMMUNITY COLLEGES
- ⑤ STATE TECHNICAL COLLEGES
- ⑥ VOCATIONAL TECHNICAL SCHOOLS
- ⑦ HIGH SCHOOL HEALTH PROGRAMS

HOSPITALS:

- ■ SHARON HOSPITAL, Sharon (94 beds)
- ■ WINSTED MEMORIAL HOSPITAL, Winsted (85)
- ■ CHARLOTTE HUNGERFORD HOSPITAL, Torrington (191)
- ■ DANBURY HOSPITAL, Danbury (300)
- ▲ FAIRFIELD HILLS HOSPITAL, Newtown (1284)
- ■ WATERBURY HOSPITAL, Waterbury (402)
- ■ ST. MARY'S HOSPITAL, Waterbury (420)
- ■ NEW MILFORD HOSPITAL, New Milford (81)

EXTENDED CARE FACILITIES
REST HOMES WITH NURSING SUPERVISION

- ▼ BETHLEHEM REST HOME, Bethlehem
- MARBRIDGE REST HOME, Cheshire
- KEATING HOME, Danbury
- MAPLE YOKE REST HOME, Danbury
- FERNWOOD REST HOME, Litchfield
- NAUGATUCK REST HOME, Naugatuck
- PINE CREST REST HOME, Naugatuck
- SALEM REST HOME, Naugatuck
- LONG HILL REST HOME, Shelton
- CENTRAL REST HOME CORP., Waterbury
- FLEETREST MANOR, Waterbury
- HILLSIDE MANOR RETIREMENT HOME, Waterbury
- LAUREL REST HOME, INC., Waterbury
- MONTOE PARK REST HOME, Waterbury
- OAKCLIFF REST HOME, Waterbury
- PINE MANOR REST HOME, Waterbury
- WILLOW REST HOME, Waterbury
- HIGHLAND ACRES REST HOME, Winsted
- WOLCOTT PRIVATE REST HOME, Wolcott
- HILLTOP REST HOME, INC., Wolcott

NURSING HOMES (PROFIT AND NON-PROFIT)

- ▼ CHESHIRE REHAB. AND CONV. CENTER, Cheshire
- ELIM PARK BAPTIST HOME, Cheshire
- NEW LAKEVIEW CONV. AND NURSING HOME, Cheshire
- DANBURY PAVILION, Danbury

NURSING HOMES (profit & non-profit, cont'd.)

- ▼ FILOSA CONVALESCENT HOME, INC., Danbury
- GLEN HILL CONVALESCENT CENTER, Danbury
- ROSE HAVEN, INC., Litchfield
- MIDDLEBURY CONVALESCENT HOME, Middlebury
- JONES NURSING HOME, Naugatuck
- NEW MILFORD NURSING HOME, New Milford
- TWIN PINES CONVALESCENT HOME, New Milford
- BUCKINGHAM GARDENS CONVALESCENT HOME, Newtown
- GEER MEMORIAL NURSING HOME, North Canaan
- EASTVIEW MANOR, Prospect
- PROSPECT RESTORATIVE HEALTH CENTER, Prospect
- ALTNACRAIG CONVALESCENT HOME, Ridgefield
- LUTHERAN HOME FOR AGED, Southbury
- ADAMS HOUSE, Torrington
- DRUMMOND CONVALESCENT HOME, Torrington
- TORRINGTON EXTEND-A-CARE CENTER, Torrington
- WOLCOTT HALL, Torrington
- CEDAR LANE NURSING HOME, Waterbury
- CLIFF CONVALESCENT HOME, Waterbury
- EAST END CONVALESCENT HOME, Waterbury
- GROVE MANOR, INC., Waterbury
- HOPE HALL CONVALESCENT HOME, Waterbury
- MEDICARE PAVILION, Waterbury
- NEW HORIZONS CONVALESCENT HOME, Waterbury
- OAKCLIFF CONVALESCENT HOME, Waterbury
- PARK MANOR, Waterbury
- ROSE MANOR, Waterbury
- SOUTHMAYD HOME, INC., Waterbury
- WATERBURY CONVALESCENT CENTER, Waterbury
- WHITEWOOD MANOR NURSING HOME, Waterbury
- WATERBURY EXTENDED CARE FACILITY, Watertown
- WATERTOWN CONVALARIUM, Watertown
- HIGHLAND ACRES EXTEND-A-CARE CENTRE, Winsted
- WOODBURY CONVALESCENT HOME, Woodbury

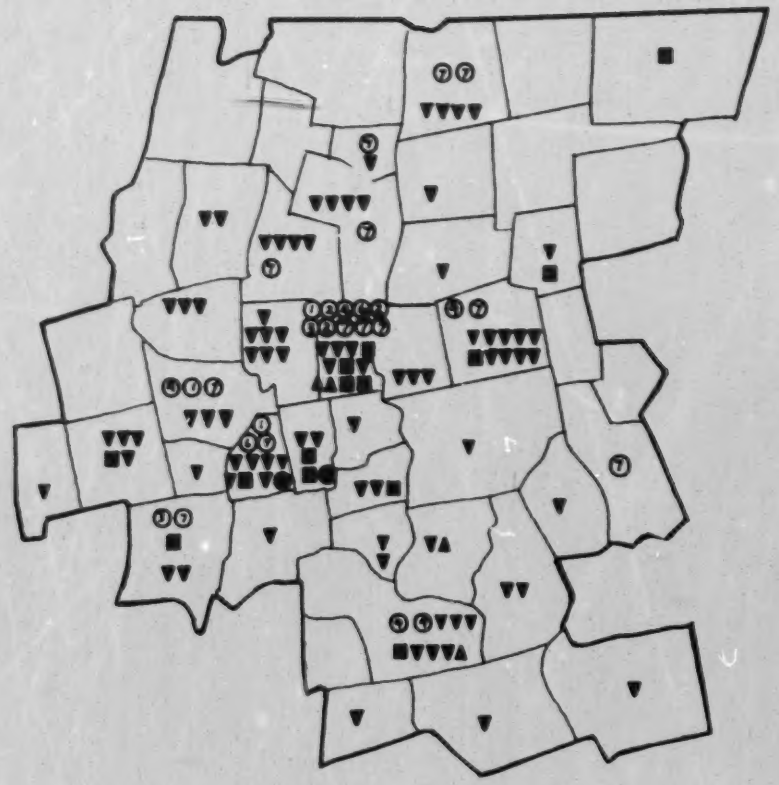
EDUCATIONAL INSTITUTIONS

- ⑪ WESTERN CONN. STATE COLLEGE, Danbury
- ⑫ HENRY ABBOTT VOC-TECH, Danbury
- ⑬ OLIVER WOLCOTT VOC-TECH., Torrington
- ⑭ MATTATUCK COMMUNITY COLLEGE, Waterbury
- ⑮ POST JR. COLLEGE - Waterbury
- ⑯ W.F. KAYNOR REGIONAL VOC-TECH., Waterbury
- ⑰ NORTHWESTERN CONN. COMMUNITY COLLEGE, Winsted

HIGH SCHOOL HEALTH PROGRAMS

- ⑦ DANBURY HIGH, Danbury
- ⑧ WAMOGO REGIONAL HIGH SCHOOL, Litchfield
- ⑨ RIDGEFIELD HIGH, Ridgefield
- ⑩ THOMASTON HIGH, Thomaston
- ⑪ SHEPAUG VALLEY HIGH SCHOOL, Washington
- ⑫ CROSBY HIGH, Waterbury
- ⑬ WILBY HIGH, Waterbury
- ⑭ WATERTOWN HIGH, Watertown

A



CONNECTICUT INSTITUTE FOR HEALTH MANPOWER RESOURCES, INCORPORATED

PLANNING REGION

B

HOSPITALS

- ■ GENERAL: private & state
- ● CHRONIC DISEASE: private & state
- ▲ PSYCHIATRIC: private & state

EXTENDED CARE FACILITIES

- ▼ REST HOMES with nursing supervision
  NURSING HOMES: profit & nonprofit

EDUCATIONAL INSTITUTIONS OFFERING IDENTIFIED HEALTH OCCUPATION PROGRAMS

1. PUBLIC 4 YR & GRADUATE
2. PRIVATE 4 YR & GRADUATE
3. PRIVATE 2 YR & PROPRIETARY
4. REGIONAL COMMUNITY COLLEGES
5. STATE TECHNICAL COLLEGES
6. VOCATIONAL TECHNICAL SCHOOLS
7. HIGH SCHOOL HEALTH PROGRAMS

HOSPITALS:

■ BRISTOL HOSPITAL, Bristol (250 beds)
▲ BLUE HILLS HOSPITAL, Hartford (80)
■ HARTFORD HOSPITAL, Hartford (964)
▲ INSTITUTE OF LIVING, Hartford (415)
■ MT. SINAI HOSPITAL, Hartford (333)
■ ST. FRANCIS HOSPITAL, Hartford (613)
■ UCONN-McCOOK HOSPITAL, Hartford (129)
■ MANCHESTER MEMORIAL, Manchester (299)
▲ CONNECTICUT VALLEY HOSPITAL, Middletown
■ MIDDLESEX MEMORIAL HOSPITAL, Middletown (365)
■ NEW BRITAIN GENERAL, New Britain (400)
● NEW BRITAIN MEMORIAL, New Britain (200)
● CEDARCREST HOSPITAL, Newington (202)
■ NEWINGTON CHILDRENS, Newington (212)
■ V. A. HOSPITAL, Newington (190)
▲ ELMCREST PSYCHIATRIC INSTITUTE, Portland
■ VETERANS HOME AND HOSPITAL, Rocky Hill (484)
■ BRADLEY MEMORIAL, Southington (98)
■ JOHNSON MEMORIAL, Stafford (75)
■ ROCKVILLE HOSPITAL, Vernon (105)

EXTENDED CARE FACILITIES:

REST HOMES WITH NURSING SUPERVISION

▼ CHARTER OAK REST HOME, Bloomfield
COUNTRYSIDE MANOR, Bristol
RIDGEVIEW REST HOME, Cromwell
TWIN MAPLES HOME, Durnam
D'AMORE REST HAVEN, East Windsor
ST. JOSEPH'S RESIDENCE, Enfield
HADDAM MANOR, INC., Haddam
HEBREW HOME FOR AGED, Hartford
NOBLE HOME, Hartford
VICTORIA REST HOME, Hartford
GREEN LODGE HOME, Manchester
HOLIDAY HOUSE, Manchester
MANCHESTER MANOR, Manchester
MEADOWS REST HOME, Manchester
LORD MARLBOROUGH MANOR, Marlborough
MIDDLESEX REST HOME, Middletown
BRITTANY FARMS REST HOME, New Britain
BEL-AIR MANOR, Newington
SILLS HOME, Newington
ST. ANTHONY HOME, Vernon
ST. MARY'S HOME, West Hartford
SAUNDERS REST HOME, West Hartford
WINDSOR HALL, Windsor

B

NURSING HOMES (PROFIT & NON-PROFIT)

▼ AVON CONV. HOME, Avon
BOLLESWOOD. Avon
BRIGHT VIEW CONV., Avon
LEDGECREST CONV. HOME, Berlin
BLOOMFIELD CONV. CENTER, Blmfld.
HIGH RIDGE CONV., Bloomfield
HILLDALE EXTEND-A-CARE CENTER, Blmfld.
FORESTVILLE CONV. CENTER, Bristol
NURSING CARE CENTER, Bristol
BRISTOL CONV. HOME, Bristol
CROMWELL CREST CONV., Cromwell
PILGRIM MANOR, Cromwell
DURHAM CONV. HOME, Durham
CHESTELM CONV. HOME, E. Haddam
COBALT LODGE, East Hampton
REST HAVEN, East Hampton
BURNSIDE CONV. HOME, E. Hartford
EAST HARTFORD CONV. HOME, E. Hartford
SILVER LANE PAVILION, East Hartford
ENFIELD NURSING HOME, Enfield
PARKWAY PAVILION, Enfield
ST. JOSEPH'S RESIDENCE, Enfield
FARMINGTON CONV. HOME, Farmington
GERI-CARE CONV. HOME, Farmington
HOME OF FARMINGTON, Farmington
SALMON BROOK CONV. HOME, Glastonbury
AVERY NURSING HOME, Hartford
BUCKLEY CONV. HOME, Hartford
THE GABLES, Hartford
GREENWOOD PAVILION CONV. HOME, Htfd.
HEBREW HOME FOR AGED, Hartford
CRESTFIELD CONV. HOME, Manchester
LAUREL MANOR, Manchester
MANCHESTER MANOR NURSING HOME, Mnchtr.
MEADOWS NURSING HOME, Manchester
LUTHERAN HOME INFIRMARY, Middletown
MEADOWBROOK CONV. HOME, Middletown
MIDDLESEX NURSING HOME, Middletown
QUEEN'S CONV. HOME, Middletown
SANIBEL INC., Middletown
CORBIN CONV. HOME, New Britain
ELM CONV. HOME, New Britain
JAMES ANDREW HOUSE, New Britain
LEXINGTON CONV. HOME, New Britain
WALNUT HILL CONV. HOME, New Britain
PLAINVILLE CONV. HOME, Plainville

NURSING HOMES (PROFIT & NON-PROFIT)

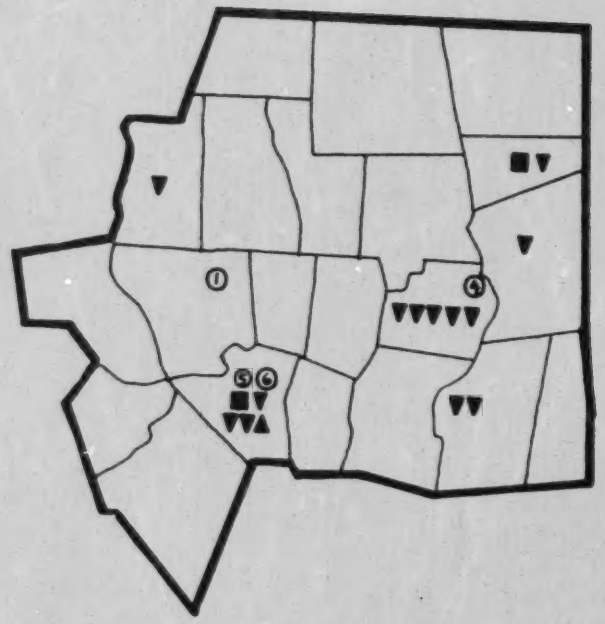
▼ COOKS WILLOW REST, Plymouth
PORTLAND CONV. HOME, Portland
ELM HILL CONV. HOME, Rocky Hill
WEST HILL CONVACENTER, Rocky Hill
HOLLY HILL CONV. HOME, Simsbury
McLEAN HOME, Simsbury
McCULLY CONV. HOME, Southington
RIDGEWOOD CONV. HOME, Southington
SOUTH WINDSOR CONV. HOME, S. Windsor
ROCKVILLE NURSING HOME, Vernon
HUGHES CONV. HOME, West Hartford
MERCY KNOLL, West Hartford
ST. MARY HOME, West Hartford
WETHERSFIELD MANOR, Wethersfield
KIMBERLY HALL NURSING HOME, Windsor
MOUNTAIN VIEW PAVILION, Windsor
WINDSOR HALL NURSING HOME, Windsor
BICKFORD CONV. HOME, Windsor Locks

EDUCATIONAL INSTITUTIONS

⑤ TUNXIS COMMUNITY COLLEGE, Farmington
① U. OF CONN. HEALTH CENTER, Farmington
⑭ A.I. PRINCE REG. VOC-TECH., Hartford
④ GREATER HTFD. COMMUNITY COLL., Hartford
⑦ HARTFORD SECRETARIAL, Hartford
⑬ RENSSELAER POLYTECH. INST., Hartford
⑱ ST. JOSEPH COLLEGE, Hartford
① U CONN. SCHOOL OF SOCIAL WORK, Htfd.
② UNIVERSITY OF HARTFORD, Hartford
⑥ MANCHESTER COMMUNITY COLLEGE, Manchester
⑰ MIDDLESEX COMMUNITY COLL., Middletown
⑯ VINAL REGIONAL VOC.-TECH., Middletown
⑫ E.C. GOODWIN REG. VOC.-TECH., New Britain
① CENTRAL CONN. STATE, New Britain
⑳ BRIARWOOD SCHOOL FOR WOMEN, Southington

HIGH SCHOOL HEALTH PROGRAMS

⑦ BLOOMFIELD HIGH, Bloomfield
ENFIELD HIGH, Enfield
FERMI HIGH, Enfield
FARMINGTON HIGH, Farmington
BULKELEY HIGH, Hartford
HARTFORD HIGH, Hartford
WEAVER HIGH, Hartford
RHAM REGIONAL HIGH SCHOOL, Hebron
MANCHESTER HIGH, Manchester
NEW BRITAIN HIGH, New Britain
SOUTHINGTON HIGH, Southington
WINDSOR HIGH, Windsor
WINDSOR LOCKS HIGH, Windsor Locks



CONNECTICUT INSTITUTE FOR HEALTH MANPOWER RESOURCES, INCORPORATED

PLANNING REGION

C

HOSPITALS

- ■ GENERAL: private & state
- ● CHRONIC DISEASE: private & state
- ▲ PSYCHIATRIC: private & state

EXTENDED CARE FACILITIES

- ▼ REST HOMES with nursing supervision
  NURSING HOMES: profit & nonprofit

EDUCATIONAL INSTITUTIONS OFFERING IDENTIFIED HEALTH OCCUPATION PROGRAMS

① PUBLIC 4 YR & GRADUATE
② PRIVATE 4 YR & GRADUATE
③ PRIVATE 2 YR & PROPRIETARY
④ REGIONAL COMMUNITY COLLEGES
⑤ STATE TECHNICAL COLLEGES
⑥ VOCATIONAL TECHNICAL SCHOOLS
⑦ HIGH SCHOOL HEALTH PROGRAMS

HOSPITALS

■ DAY KIMBALL HOSPITAL, Putnam (169 beds)
▲ NATCHAUG HOSP. & NURSING H. Willimantic (30)
■ WINDHAM COMMUNITY MEMORIAL, Windham (174)

EXTENDED CARE FACILITIES
REST HOMES WITH NURSING SUPERVISION

▼ NORCLIFFE REST HOME, Brooklyn
PIERCE MEMORIAL BAPTIST HOME, Brooklyn
CREST HAVEN REST HOME, Plainfield
MATULAITIS REST HOME, Putnam

NURSING HOMES (PROFIT AND NON-PROFIT)

▼ WESTVIEW MANOR, Attawaugan
BROOKLYN CONVALESCENT HOME, Brooklyn
PIERCE MEMORIAL BAPTIST HOME, Brooklyn
STULA PAVILION, Danielson
VILLA MARIA CONVALESCENT, Plainfield
MATULAITIS NURSING HOME, Putnam
WILLINGTON CONVALESCENT HOME, Willington
ABBEY MANOR INC., Windham
NATCHAUG NURSING HOME, Windham
VALLEY VIEW CONV. HOME, Windham

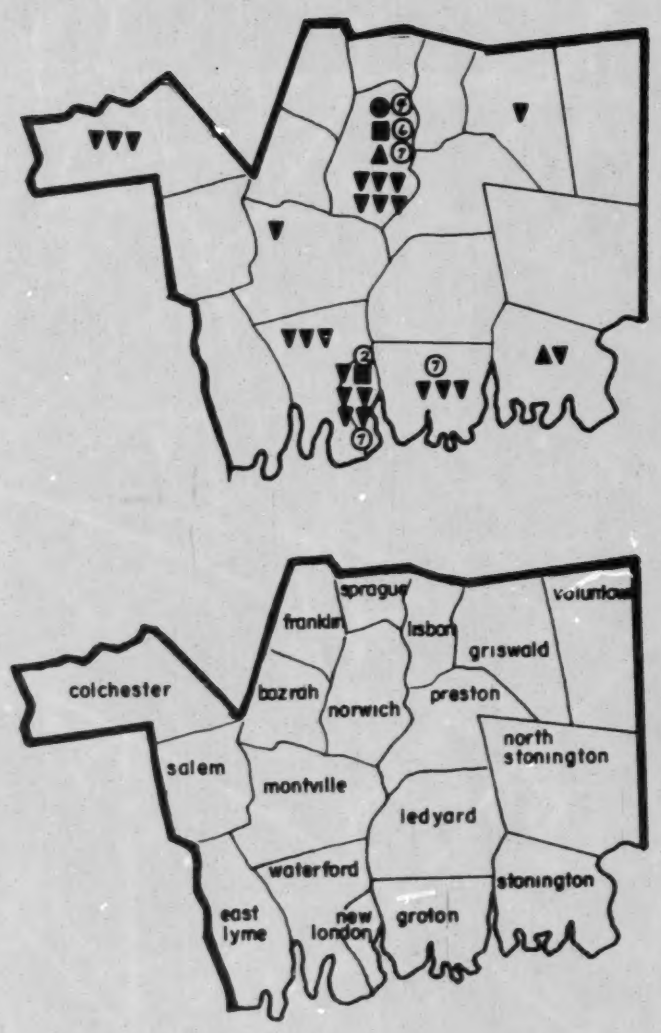
EDUCATIONAL INSTITUTIONS

④ QUINEBAUG VALLEY COMMUNITY COLL, Danielson
⑪ UNIVERSITY OF CONNECTICUT, Storrs
⑪ EASTERN CONN. STATE COLLEGE, Willimantic
⑭ WINDHAM REGIONAL VOC-TECH, Willimantic

HIGH SCHOOL HEALTH PROGRAMS

⑰ (None reported as of September, 1973)

C



HOSPITALS

- ■ GENERAL: private & state
- ● CHRONIC DISEASE: private & state
- ▲ PSYCHIATRIC: private & state

EXTENDED CARE FACILITIES

- ▼ REST HOMES with nursing supervision
  NURSING HOMES: profit & nonprofit

EDUCATIONAL INSTITUTIONS OFFERING IDENTIFIED HEALTH OCCUPATION PROGRAMS

- ① PUBLIC 4 YR & GRADUATE
- ② PRIVATE 4 YR & GRADUATE
- ③ PRIVATE 2 YR & PROPRIETARY
- ④ REGIONAL COMMUNITY COLLEGES
- ⑤ STATE TECHNICAL COLLEGES
- © VOCATIONAL TECHNICAL SCHOOLS
- ⑦ HIGH SCHOOL HEALTH PROGRAMS

PLANNING REGION D

CONNECTICUT INSTITUTE FOR HEALTH MANPOWER RESOURCES, INCORPORATED

HOSPITALS:

- ■ LAWRENCE & MEMORIAL HOSPITALS, New London (370 beds)
- ▲ NORWICH HOSPITAL, Norwich (1191)
- ● UNCAS-ON-THAMES HOSPITAL, Norwich (228)
- ■ WILLIAM W. BACKUS HOSPITAL, Norwich (245)
- ▲ STARLITE FARM, INC. N. Stonington

EXTENDED CARE FACILITIES:
REST HOMES WITH NURSING SUPERVISION

- ▼ COVE VIEW MANOR, Montville
  NORWICH REST HOME INC., Norwich
  SACHEM HOME, Norwich

NURSING HOMES: (PROFIT AND NON-PROFIT)

- ▼ COLCHESTER CONVALESCENT HOME, Colchester
  DR. FRIEDMAN'S CONVALESCENT HOME, Colchester
  STULA CONVALESCENT HOME, Colchester

NURSING HOMES: (profit & non-profit, cont'd.)

- ▼ SUMMIT CONVALESCENT NURSING HOME, Griswold
  GROTON CONVALESCENT HOME, Groton
  ODD FELLOWS HOME INFIRMARY, Groton
  MYSTIC MANOR, Mystic
  BEECHWOOD MANOR INC., New London
  BRIARCLIFF CONVALESCENT HOME, New London
  CAMELOT INC., New London
  HILLSIDE HOME INFIRMARY, New London
  NUTMEG PAVILION, New London
  ELMACHRI CONVALESCENT HOME, Norwich
  FAIRLAWN'S INC., Norwich
  HAMILTON PAVILION, Norwich
  NORWICHTOWN CONVALESCENT HOME, Norwich
  MARY ELIZABETH CONV. HOME, Stonington
  GREEN TREE MANOR, Waterford
  MARY KENNY NURSING HOME, Waterford
  NEW LONDON CONV. HOME, Waterford

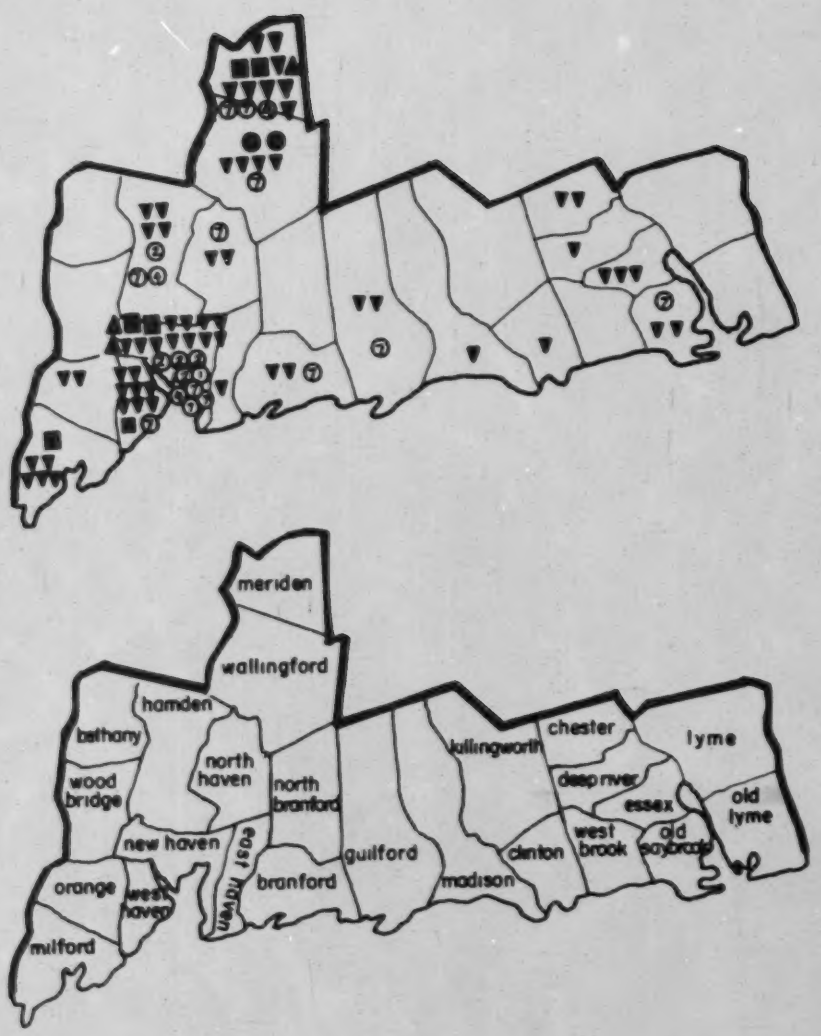
EDUCATIONAL INSTITUTIONS

- ⑤ CONNECTICUT COLLEGE, New London
- ⑥ MITCHELL COLLEGE, New London
- ⑧ MOHEGAN COMMUNITY COLLEGE, Norwich
- ⑨ NORWICH REGIONAL VOC-TECH., Norwich

HIGH SCHOOL HEALTH PROGRAMS

- ⑦ FITCH SENIOR HIGH SCHOOL, Groton
  NORWICH FREE ACADEMY, Norwich

D



HOSPITALS

- ■ GENERAL: private & state
- ● CHRONIC DISEASE: private & state
- ▲ PSYCHIATRIC: private & state

EXTENDED CARE FACILITIES

- ▼ REST HOMES with nursing supervision
  NURSING HOMES: profit & nonprofit

EDUCATIONAL INSTITUTIONS OFFERING IDENTIFIED HEALTH OCCUPATION PROGRAMS

- ① PUBLIC 4 YR & GRADUATE
- ② PRIVATE 4 YR & GRADUATE
- ③ PRIVATE 2 YR & PROPRIETARY
- ④ REGIONAL COMMUNITY COLLEGES
- ⑤ STATE TECHNICAL COLLEGES
- ⑥ VOCATIONAL TECHNICAL SCHOOLS
- ⑦ HIGH SCHOOL HEALTH PROGRAMS

PLANNING REGION E

CONNECTICUT INSTITUTE FOR HEALTH MANPOWER RESOURCES, INCORPORATED

HOSPITALS:

- ■ MERIDEN-WALLINGFORD HOSPITAL, Meriden (239 beds)
- ▲ UNDERCLIFF MENTAL HEALTH CENTER, Meriden
- ■ W.W. II VETERANS MEMORIAL HOSPITAL, Meriden (87)
- ■ MILFORD HOSPITAL, Milford (151)
- ▲ CONNECTICUT MENTAL HEALTH CENTER, New Haven
- ■ ST. RAPHAEL'S HOSPITAL, New Haven (474)
- ■ YALE NEW HAVEN HOSPITAL, New Haven (767)
- ▲ YALE PSYCHIATRIC INSTITUTE, New Haven
- ● GAYLORD HOSPITAL & SANITORIUM, Wallingford (118)
- ● MASONIC HOSPITAL, Wallingford (98)
- ■ V.A. HOSPITAL, West Haven

EXTENDED CARE FACILITIES:

REST HOMES WITH NURSING SUPERVISION

- ▼ AARON MANOR GERIATRIC HOME, Chester
- MEADOWLEA, INC., Essex
- THE CORNER HOUSE, Meriden
- HAMILTON REST HOME, Milford
- SHERMAN AVENUE REST HOME, New Haven
- THE MARY WADE HOME, New Haven
- LYDIAN INC., Orange
- SKYVIEW REST HOME INC., Wallingford
- OCEANVIEW REST HOME, West Haven

NURSING HOMES: (PROFIT AND NON-PROFIT)

- ▼ BRANFORD CONVALESCENT HOME, Branford
- DUNCAN CONVALESCENT HOME, Branford
- CHESTERFIELDS CONVALESCENT HOME, Chester
- CLINTON CONVALESCENT CENTER, Clinton
- DEEP RIVER CONVALESCENT HOME, Deep River
- EAST HAVEN CHRONIC AND CONV. HOME, East Haven
- HIGHLAND HALL CONVALESCENT HOME, Essex
- PETTIPAUG CONVALESCENT HOME, Essex
- FOWLERS CONVALESCENT HOME, Guilford
- WEST LAKE LODGE, Guilford
- ARDEN HOUSE OF HAMDEN, Hamden

NURSING HOMES: (profit & non-profit, cont'd.)

- ▼ HAMDEN CONV. NURSING CENTRE, Hamden
- HYDE PARK CONVALESCENT HOME, Hamden
- WHITNEY MANOR CONVALESCENT HOME, Hamden
- WATROUS MEMORIAL, Madison
- THE BRADLEY HOME, Meriden
- CROSSON CONVALESCENT HOME, Meriden
- CURTIS HOME INFIRMARY, Meriden
- MERIDEN NURSING HOME, Meriden
- MILLS MANOR CONVALESCENT HOME, Meriden
- ROYAL CREST CONVALESCENT HOME, Meriden
- WESTFIELD NURSING HOME, Meriden
- GOLDEN HILL NURSING HOME, Milford
- MILFORD HEIGHTS NURSING HOME, Milford
- POND POINT CONVALESCENT HOME, Milford
- SEASIDE EXTENDED CARE FACILITY, Milford
- BRENTWOOD MANOR, New Haven
- CAREWELL CONVALESCENT HOME, New Haven
- CARILLON CONVALESCENT HOME, New Haven
- COVE MANOR CONVALESCENT HOME, New Haven
- GOLDEN MANOR CONVALESCENT HOME, New Haven
- JEWISH HOME FOR AGED, INC., New Haven
- NEW FAIRVIEW HALL, New Haven
- NEW HAVEN CONVALESCENT NURSING HOME, New Haven
- PARKVIEW MEDICAL RECOVERY CENTER, New Haven
- KEEFE'S CONVALESCENT HOME, North Haven
- MONTOWESE CONVALESCENT HOME, North Haven
- PETTIPAUG SOUTH HEALTH CARE FACILITY, O. Saybrook
- SAYBROOK CONVALESCENT HOME, Old Saybrook
- ORANGE CONVALESCENT HOME, Orange
- MASONIC HOME AND HOSPITAL, Wallingford
- SKYVIEW CONVALESCENT HOME, Wallingford
- WALLINGFORD CONVALESCENT HOME, Wallingford
- ARTERBURN CONVALESCENT HOME, West Haven
- BENTLEY GARDENS NURSING HOME, West Haven
- BREAKERS CONVALESCENT HOME, West Haven
- HAWKINS CONVALESCENT HOME, West Haven
- METHODIST CHURCH HOME INFIRMARY, West Haven
- SOUND VIEW CONVALESCENT CENTER, West Haven
- WEST HAVEN MANOR, West Haven

EDUCATIONAL INSTITUTIONS

- ⑤ ELI WHITNEY REGIONAL VOC-TECH, Hamden
- ⑦ QUINNIPIAC COLLEGE, Hamden
- ⑭ H.C. WILCOX REGIONAL VOC-TECH, Meriden
- ⑳ ALBERTUS MAGNUS COLLEGE, New Haven
- ㉔ GRACE-NEW HAVEN SCH.OF NURSING, New Haven
- ㉙ SOUTH CENTRAL COMMUNITY COLL., New Haven
- ㉚ SOUTHERN CONN. STATE COLLEGE, New Haven
- ㉛ UNIVERSITY OF NEW HAVEN, New Haven
- ㉜ YALE UNIVERSITY, New Haven

HIGH SCHOOL HEALTH PROGRAMS

- ⑦ BRANFORD HIGH, Branford
- GUILFORD HIGH, Guilford
- HAMDEN-NEW HAVEN COOP. CENTER, Hamden
- MALONEY HIGH, Meriden
- PLATT HIGH, Meriden
- WILBUR CROSS HIGH, New Haven
- HILLHOUSE HIGH, New Haven
- LEE HIGH, New Haven
- NORTH HAVEN HIGH, North Haven
- OLD SAYBROOK HIGH, Old Saybrook
- LYMAN HALL HIGH, Wallingford
- WEST HAVEN HIGH, West Haven

E

HOSPITALS

- ■ GENERAL: private & state
- ● CHRONIC DISEASE: private & state
- ▲ PSYCHIATRIC: private & state

EXTENDED CARE FACILITIES

- ▼ REST HOMES with nursing supervision
  NURSING HOMES: profit & nonprofit

EDUCATIONAL INSTITUTIONS OFFERING IDENTIFIED HEALTH OCCUPATION PROGRAMS

1. PUBLIC 4 YR & GRADUATE
2. PRIVATE 4 YR & GRADUATE
3. PRIVATE 2 YR & PROPRIETARY
4. REGIONAL COMMUNITY COLLEGES
5. STATE TECHNICAL COLLEGES
6. VOCATIONAL TECHNICAL SCHOOLS
7. HIGH SCHOOL HEALTH PROGRAMS

PLANNING REGION F

CONNECTICUT INSTITUTE FOR HEALTH MANPOWER RESOURCES, INCORPORATED

HOSPITALS:

- ■ BRIDGEPORT HOSPITAL, Bridgeport (673 beds)
- ● DINAN MEMORIAL CENTER, Bridgeport (56)
- ▲ GREATER BRIDGEPORT COM. HEALTH CENTER, Bridgeport
- ■ PARK CITY HOSPITAL, Bridgeport (208)
- ■ ST. VINCENT'S HOSPITAL, Bridgeport (342)
- ■ GRIFFIN HOSPITAL, Derby (238)
- ■ GREENWICH HOSPITAL, Greenwich (426 beds)
- ▲ SILVER HILL FOUNDATION, New Canaan
- ■ NORWALK HOSPITAL, Norwalk (390)
- ● LAUREL HEIGHTS HOSPITAL, Shelton (213)
- ■ ST. JOSEPH'S HOSPITAL, Stamford (260)
- ■ STAMFORD HOSPITAL, Stamford (386)
- ● ST. JOSEPH'S MANOR, Trumbull (41)
- ▲ HALL-BROOKE HOSPITAL FOUNDATION, Westport

EXTENDED CARE FACILITIES:
REST HOMES WITH NURSING SUPERVISION

- ▼ MOUNTAIN LAUREL MANOR, Bridgeport
- MARSHALL-LANE MANOR, Derby
- PROSPECT GARDENS REST HOME, Norwalk
- LONG HILL REST HOME, Shelton
- LORD CHAMBERLAIN, Stratford
- ST. JOSEPH'S MANOR, Trumbull

NURSING HOMES: (PROFIT AND NON-PROFIT)

- ▼ DINAN MEMORIAL CENTER, Bridgeport
- GOLDEN HEIGHTS MANOR INC., Bridgeport
- PARK AVENUE CONVALESCENT HOME, Bridgeport
- SYLVAN MANOR CONVALESCENT HOME, Bridgeport
- THIRTY-THIRTY PARK HEALTH CENTER, Bridgeport
- MOUNTAIN LAUREL MANOR, Bridgeport
- DERBY NURSING HOME, Derby
- CAROLTON CHRONIC & CONV. HOME, Fairfield
- SOUTHPORT MANOR, Fairfield
- VAN DOREN CONVALESCENT HOME, Fairfield
- GREENWICH-LAURELTON NURSING HOME, Greenwich
- PUTNAM-WEAVER NURSING HOME, Greenwich
- NATHANIEL WITHERELL HOME, Greenwich
- PINE VIEW CONVALESCENT HOME, Monroe
- ELMCREST HEALTH CARE CENTER, Norwalk
- LEA MANOR CONVALESCENT HOME, Norwalk
- NOTRE DAME CONVALESCENT HOME, Norwalk
- PROSPECT GARDENS, Norwalk
- SHADY KNOLL CONVALESCENT HOME, Seymour
- FLORA & MARY HEWITT MEMORIAL HOME, Shelton
- LONG HILL NURSING HOME, Shelton
- UNITED METHODIST CONVALESCENT HOME, Shelton
- COURTLAND GARDENS CONV. HOME, Stamford
- THE SMITH HOUSE, Stamford
- HOMESTEAD CHRONIC & CONV. HOME, Stamford

NURSING HOMES: (profit & non-profit, cont'd.)

- ▼ STRAWBERRY HILL CONV. HOME, Stamford
- WYNDOVER CONVALESCENT HOME, Stamford
- ST. JOSEPH'S MANOR, Trumbull
- TRUMBULL-ST. MARY'S CONV. HOME, Trumbull
- WESTPORT MANOR, Westport

EDUCATIONAL INSTITUTIONS

- ⓑ BULLARD-HAVENS VOC-TECH., Bridgeport
- ⓒ UNIVERSITY OF BRIDGEPORT, Bridgeport
- ④ HOUSATONIC COMMUNITY COLLEGE, Bridgeport
- ⓕ FAIRFIELD UNIVERSITY, Fairfield
- ⓝ NORWALK COMMUNITY COLLEGE, Norwalk
- ⓢ NORWALK STATE TECHNICAL COLL.,Norwalk
- ⓙ J.M. WRIGHT VOC.-TECH., Stamford

HIGH SCHOOL HEALTH PROGRAMS

- ⓐ ANSONIA HIGH, Ansonia
- BASSICK, Bridgeport
- CENTRAL HIGH, Bridgeport
- HARDING HIGH, Bridgeport
- DERBY HIGH, Derby
- BRIEN McMAHON, Norwalk
- SHELTON HIGH, Shelton
- STAMFORD HIGH, Stamford
- RIPPOWAM HIGH, Stamford
- WEST HILL HIGH, Stamford
- TRUMBULL HIGH, Trumbull

F

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METHODOLOGY

Scope of Study:

The objective of this study was to provide information on the supply and demand of health manpower for the coordination of educational programs and employment opportunities. The study aimed to encompass health occupations for which there are educational programs offered in the State of Connecticut and the Northeast. To carry out the intent of the legislation mandating the study, it was necessary to examine the complete spectrum of allied health occupations.

The scope of the study was to include not only the recognized constituent elements of the higher education system but also the high school system, hospital schools and proprietary schools. Originally, the staff was aware of 76 institutions offering 246 post-secondary educational programs in 69 health related occupations. Further research, however, yielded 334 health related educational programs in 134 Connecticut institutions for 91 health occupations and professions. To construct an accurate picture of the supply pipeline, the following elements of the educational system must be included: Institutions of higher education; high schools; proprietary schools; hospital or nursing homes; and state agencies. Although on-the-job training programs were not the subject of the study, it was decided to keep track of those on-the-job training programs that were submitted and include them in the list of health related programs with a special designation.

The majority of institutions and employers concerned with the delivery of health care were to be studied. Not only the customary major employers of health occupations would be surveyed but the study would include many employers not usually considered part of the health manpower domain. Those employers to be included were: Hospitals; extended health care facilities; visiting nurse associations; clinical laboratories; voluntary health organizations; industrial and school infirmaries; neighborhood health centers, health maintenance organizations and local health departments; dental laboratories; physical therapy contractors; ambulance services; drug clinics; and physician group practices. Concerning physicians and dentists, an approach had been made to both professional societies to conduct a study of their members. However, due to the time involved to develop and pretest a suitable questionnaire for those professional groups, and sufficient time for followup, it was decided that the study would concentrate on institutions. It was felt that by concentrating on institutions, greater returns would be realized in the time period involved.

State agencies were determined to be an important part of the study when they were found to be a major employer and a formal and informal

trainer of health related occupations. Further, upon examination of regional state facilities, it would have been a serious omission to exclude central offices where decision-makers are located.

Questionnaire Research and Development:

A literature review was undertaken and revealed that limited secondary information was available on national, regional, state and local levels. However, it became necessary to initiate a primary search for reliable and current data relating to employment opportunities and educational programs in health for the State of Connecticut. Previous studies had either examined employment opportunities or educational programs but not both in concert. Further, most studies were concerned with a limited selection of occupations, usually physicians, nurses, and other licensed professions. In recent years the number of occupations (and training programs for them) has expanded rapidly so that an accurate comprehension of health manpower necessitates a broader look at the field.

In developing the questionnaire, staff conferred with educational program directors, hospital administrators, nursing home administrators and personnel directors. Health occupations were enumerated to correspond to the educational programs in the State. A list of definitions was included that uniformity in reporting might result among the wide range of employers surveyed.

Questionnaire Design:

Three separate versions of the questionnaire were designed to accommodate the three basic populations surveyed: The educator, the employer and the employer/educator. In addition, variations of certain pages were developed to adapt the questionnaire to sub-divisions within these populations.

The educational questionnaire requested current supply information. For each health related educational program offered by the respondent, the information requested as of October 1, 1973 included: The number of graduates over the last four years; the current enrollment with number female; and of the first-year class, the number of applicants, capacity and number expected to graduate. Also requested was information on how many graduates of these programs found employment in their field and where.

The educational subjective questions were, in part, directed towards finding out plans for expansion, consolidation or deletion of health occupations programs. Other questions concerned placement methods for graduates, requests from employers regarding graduates and barriers to training and employment in the health field.

The employer questionnaire was designed to provide information on current employment opportunities, i.e., current demand, and subjective material as it applied to a particular situation. For each occupation employed the information sought as of September 17, 1973 included: Current employment, full-time and part-time with number female; the number of full-time and part-time vacancies and new positions; the annual turnover; and projections as perceived by the employer for 1975 and 1980.

The subjective portion of the employer questionnaire aimed at determining expansion plans in a more definitive way. Opinions on the effects of National Health Insurance and the Commission on Hospitals and Health Care on employment patterns were solicited. Respondents were asked to comment on their hiring practices, trends in employment and the possibility of a health job bank.

A questionnaire was developed for those employers who were also educators of health professionals. In addition to the basic statistical data on employment, an educational/training section was included. Besides the same statistical information on current programs as the educational questionnaire the subjective questions were made more appropriate to an employment situation rather than an educational institution.

Over 1,200 questionnaires were mailed or distributed to presidents of educational institutions and administrative heads of employing institutions during the latter part of September 1973. Further investigation revealed additional employers of health occupations and resulted in additional mailings. The final total, including state agencies surveyed, swelled to 1,500. The requested return date was October 15, 1973; a cover letter extended the deadline for subsequent mailings.

Interviews:

A series of over a hundred personal interviews sampling employers and educators of health occupations personnel was developed to add more depth to the information gathered in the study. Employers were selected on the basis of number of employees, type of facility and geographic location. All hospitals in the state were to be interviewed. Educational facilities were selected by the number and type of programs offered, geographic location and type of facility (state, private, etc.) All central offices of the State's departments and divisions concerned with the employment and/or training of health related occupations were to be interviewed.

On September 21, 1973, a workshop meeting was held in order to familiarize the staff and volunteers with the format and procedure of the interviews. Volunteers for the interviews were provided by agencies related to health manpower including: Comprehensive Health Planning "B" agencies of Hartford, Bridgeport, New Haven and Middletown; New Haven Institute for

Allied Health Careers; Community Renewal Team; and Community Colleges. The questions to be asked during the interview were the subjective questions of the questionnaire.

Processing of Returns:

Early returns were reviewed to set up guidelines for the later returns. Standard difficulties were encountered such as blank entries, definitional problems, and questionnaires sent to the head of an institution not forwarded to the appropriate person within that institution.

Followup Procedures to Increase Returns:

A post card reminder was sent on October 12, 1973 to all outstanding recipients of the questionnaire. Interviewers were made responsible for returns from institutions they interviewed. Telephone contact was made with institutions having a low rate of return. Additional mailings were made to those who reported they had never received the questionnaire and were willing to complete it as soon as possible. All outstanding hospitals and educational institutions were contacted. A news release was mailed to all daily newspapers, AM and FM radio stations, and television stations in Connecticut. In addition to these measures many third party persons and groups offered their assistance in increasing the rate of return, including the Connecticut Hospital Association and the Connecticut Association of Extended Health Care Facilities, Inc.

Rate of Return for Institutions Surveyed:

The respondents were exceptionally cooperative as reflected by the high rate of return. There was a 93% return from all hospitals; a 91% return from all educational facilities; and for the remainder of employers, the return was considerable, realizing the amount of information requested for the survey. A complete listing of the rates of return for all types of institutions is included as an appendix.

Coding:

The information from the questionnaires was coded and keypunched. Both the coding and the keypunching were verified. Special codes for blank entries were developed so that they could be properly identified when it was not clear that "zero" was intended. All data sets (i.e., one complete set of employment data applying to one occupation of one facility)

contained three geographic codes to enable analysis of the returns by regions within the state. The regions used were: Commission for Higher Education Planning Areas (6); Comprehensive Health Planning "B" Agency Areas (11); and Connecticut Labor Market Areas (17).

Processing of Data:

The current employment data on IBM cards were processed by computer at Rensselaer Polytechnic Institute for summation of data, calculation of rates (percent remale, annual turnover, etc.), and computation of projections as perceived by the employer.

Educational grid data and employer subjective data on IBM cards were sorted and printed; results were hand-tabulated. Educational subjective, due to small number of questions and manageable number of institutions, was hand-tabulated directly from the questionnaires.

During analysis, and prior to drawing conclusions and recommendations, several consultants and professional associations were contacted and asked to review the material. The feedback from these meetings place the results of the survey in proper perspective, and also confronted the data with current issues.

Supplemental Information:

To give the study a wider orientation, series of occupational profiles were drawn from a number of references. The profiles aim to provide information on the nature and locus of employment, licensure and educational requirements, and educational facilities available in the nation, the Northeast and in Connecticut. Numbers of persons employed, sex and other pertinent data have been included, when available.

To prepare this section of the study, staff has used research materials from the Department of Health, Education and Welfare, the U.S. Department of Labor and from studies carried out in Connecticut and other states across the nation and also from information provided by professional organizations and various persons professionally active.

Northeast data was derived from several sources including: Area Resources Computer printout information and unpublished materials from the Bureau of Health Resources Development, Division of Manpower Intelligence, Manpower Resources and Requirements Branch, National Institutes of Health, Department of Health, Education and Welfare; the New England Board of Higher Education; national compilations of Allied Health Statistics furnished by the Bureau of Health Manpower Education. A detailed bibliography of the sources used is given in both the Northeast and Occupational Profiles sections.

Information and cooperation were supplied by the Connecticut Hospital Association; the Connecticut Coalition for Independent Health Professions; the Task Force to Reorganize Nursing Education and Services; the Connecticut Manpower Executives Association, Inc.; and the Connecticut Association of Extended Health Care Facilities, Inc.

Southern Regional Education Board

130 Sixth Street, N.W. • Atlanta, Georgia 30313 • 404 875-9211

AMERICAN SOCIET F CLINICAL PATHOLOGISTS
2100 WEST HARRISON STREE

MED AL TECHNOLOGY SERVICE

ASSOCIATION OF SOCIAL WORKERS INC.

ONAL PERSONN

ASSOCIATION OF INDUSTRIAL NURSES

Constituent Association of Industrial Nurses

Biological Photographic Associatic

NDED AT YALE UNIVERSITY, NEW HAVEN, SEPTEMBER, 19

ROCHESTER, MINNESOTA 559

RESEARCH MATERIAL SOURCES

AMERICAN ASSOCIATION INDUSTRIAL NURSES AAIN 1942

CONNECTICUT HOSPITAL ASSOCIATION

American School Health Associa

THE JOURNAL OF SCHOOL HEALTH

KENT, OHIO 44240

American Association of Medical Assistants,

HARTFORD CHAPTER

STATE OF CONNECTICUT

AMERICAN MEDICAL ASSOCIATION

535 NORTH DEARBORN STREET • CHICAGO, ILLINOIS 60610 • PHONE (312) 751-6000 • TWX 910-221-0300

AMERICAN MEDICAL RECORD ASS

Late Cosmetric

ociation, Inc.

N YORK, N. Y. 10019

ASSOCIATION

American Hospital Associati

OFFICE OF RESEARCH IN MEDICAL EDUCATION

KELLOGG ALLIED HEALTH PROJECT

comprehensive health planning association of ventura county

RME • OFFICE OF RESEAR BARD HALL, 3291 LOMA VISTA ROAD, VENTURA, CALIFORNIA 93003 805 643-6330

BAYLOR COLLEGE OF MEDICINE
TEXAS MEDICAL CENTER
HOUSTON, TEXAS 77025

Center fo
Manpow
Office o
(713) 52

AMERICAN DEI

EAST CHICAGO AVENUE, CHICAGO ILLINOIS

UNIVERSITY CALIFORNIA, SAN FRANCISC

DEPARTMENT OF HEALT
Emmett S. Roberts, Se

PLANNING AND EVALUATI

BUREAU OF COMPREHENSIVE HEALTH PLANNING • ONE DAVIS BLVD., THIRD FL. • TAMPA, FLORIDA 33606

DIVISION OF

STA. FLORIDA

CENTER FO
Norman Hall
University of Florida
Gainesville, Florida 32601
(904) 392-0704

J-6

P.O. Box 1320 Hartford, Connecticut 06101
AREA CODE 203 566-3913

September 7, 1973

TO: College Presidents and Central Offices
Directors of Hospitals and Nursing Homes and Health Profession Organizations
Employers of Health Personnel

FROM: Warren G. Hill, Chancellor

Special Act 73-105, enacted in the last session of the General Assembly, requires the Commission for Higher Education to make a study of the coordination of and projections for educational programs and employment opportunities for this state and northeast region.

This is an important and extensive undertaking of critical importance to the state's planning effort. If we are to have programs that relate to the state's and region's manpower needs, then a continuing assessment of those needs must be made.

It has been determined that the first phase of this undertaking should be in the health manpower area. There are critical problems with respect to the diversity of categories of professional competence, the variety of programs being developed in our colleges and universities, and the shifting patterns of employment.

The Commission is pleased to announce that the Connecticut Institute for Health Manpower Resources, Inc., has agreed to undertake this first phase study, with a report to the General Assembly by February 1, 1974. Your assistance in this study is of signal importance.

WGH/cv

770 ASYLUM AVENUE. HARTFORD. CONNECTICUT 06105 TEL. (203) 247-0877

September, 1973

Dear Administrator-Educator-Employer:

We are seeking your cooperation in a statewide survey of educational programs and employment opportunities in the health field for Connecticut and the Northeast. The information you and others provide will be collected, computerized, summarized and reported back to you. Wherever possible, projections will be made.

This study for the Commission for Higher Education was initiated by the Education Committee of the State Legislature in response to the need expressed by you and other decision-makers for data upon which to make long- and short-range plans. During the pre-test development period - educators, administrators, employers, professional associations and state agencies have graciously assisted The Connecticut Institute for Health Manpower Resources, Inc. (CIHMR) in the preparation and simplification of the attached material and questionnaire.

Would you be good enough to complete the questionnaire and return it by October 15, 1973. If you have any questions, please contact Nancy Lukacs, Connecticut Institute for Health Manpower Resources (247-5677).

Since only a sample number of educational institutions, hospitals, nursing homes, laboratories, clinics, and agencies will be interviewed, it is particularly important that each institution/office report.

We appreciate your cooperation and the efforts of your staff.

Sincerely,

LUCY T. HAMMER, CIHMR President
SELMA LEE MARKOWITZ, Executive Director

:ih
Enclosures

J-7/8

INSTRUCTIONS FOR QUESTIONNAIRE FOR EDUCATIONAL/TRAINING PROGRAMS

BEST COPY AVAILABLE

We need a variety of information on any formal educational/ training programs for health occupations that your institution might conduct. When completing the following questionnaire, please answer questions only on those programs for which you are the enrolling institution.

This questionnaire is in three main parts. The first consists of a grid requesting data on your programs. For your convenience we have entered the names of all your education/training programs for health occupations of which we are aware. Please add to or delete from this list as necessary. If you have any doubt as to whether or not a program whould be included, please feel free to call. (247-5677)

The second contains more subjective questions on related topics.

The third part requests information for an up-date of our publication 1973 Directory of Connecticut Education and Training Programs in the Health Occupations. Instructions are attached to that section.

Instructions for page one of questionnaire for educational/training programs:

Column: 1: Health program title (correct as necessary)

2-5: Enter the number of graduates for the last four years, by year of graduation as given (1970, 1971, 1972, 1973), for each of the health programs listed in column 1.

6: Enter the total enrollment as of October 1, 1973, or the most recent official enrollment, for each program.

7: Enter the total number of females enrolled as of October 1, 1973.

8-11: Enter the number enrolled as of October 1, 1973, by class (as indicated by year each class will graduate), for each program. For example, if it is a two-year program, enter the number enrolled in the first-year class in column 9, as graduating in 1975; and the number enrolled in the second-year class in column 8, as graduating in 1974. Columns 10 and 11 would remain blank.

12: Enter the total number of applicants to the current first-year class.

13: Enter the capacity of the first-year class, for each program.

14: Please provide an estimate of what percentage of the first-year class will graduate, based upon past experience.

(over)

SAMPLE

BEST COPY AVAILABLE

Instructions for page two of questionnaire for educational/training programs

We are interested in the employment patterns of your graduates. Therefore, we would appreciate it if you could provide the information as requested on page 2 of the questionnaire.

We realize that some of these data may not be available. If not available, please indicate by writing N.A. in the appropriate columns. If data are available, but they do not completely correspond to the categories we have selected, please provide us with these data and adjust the column titles accordingly, if possible.

Column 1: Health program title (correct as necessary)

2-4: For all students who graduated in 1970, enter the number who, in their first position after graduation, found employment in their field in your institution (2); elsewhere in Connecticut (3); or out-of-state(4).

5-7: Repeat for those who graduated in 1971.

8-10: Repeat for those who graduated in 1972.

11-13: Repeat for those who graduated in 1973.

14: Please give us your estimate, averaged over the last few years, of the per cent of the graduating class who did not seek employment in their field (e.g., continued education, retired, etc.), based on your experience.

15: Please give us your estimate, averaged over the last few years, of the percent of the graduating class who looked for jobs in their field, but could not find any, based on your experience.

770 ASYLUM AVENUE
HARTFORD, CONNECTICUT 06105
SELMA L. MARKOWITZ, MPH, EXECUTIVE DIRECTOR

QUESTIONNAIRE BY OCTOBER 15,1973

BEST COPY AVAILABLE

CONNECTICUT
1973 SURVEY OF HEALTH
EDUCATIONAL PROGRAMS
PAGE 1

HEALTH PROGRAM TITLE	NUMBER OF GRADUATES OVER THE LAST FOUR YEARS....				CURRENT ENROLLMENT (AS OF OCTOBER 1,1973)						NUMBER OF APPLICANTS TO CURRENT 1st YEAR CLASS...	CAPACITY OF FIRST YEAR CLASS	PERCENT OF FIRST YR. CLASS EXPECTED TO GRADUAT....
	1970	1971	1972	1973	TOTAL	FEMALE	ENROLLMENT BY CLASS (BY YEAR OF GRADUATION) 1974	1975	1976	1977			
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)

SAMPLE

BEST COPY AVAILABLE PAGE 2

CONNECTICUT

1973 SURVEY OF HEALTH EDUCATIONAL PROGRAMS

HOW MANY OF YOUR GRADUATES FOUND EMPLOYMENT IN THEIR FIELD OF STUDY IN YOUR INSTITUTION, OR ELSEWHERE IN CONNECTICUT, OR OUT-OF-STATE ? (BY YEAR OF GRADUATION)

HEALTH PROGRAM TITLE	1970			1971			1972			1973			% WHO DID NOT SEEK EMPLOYMENT IN THEIR FIELD OF STUDY...	% WHO LOOKED FOR, BUT COULD NOT FIND JOBS IN FIELD OF STUDY...
	INST.	CONN	OUT	INST	CONN	OUT	INST	CONN	OUT	INST.	CONN	OUT		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)

Signature _____ Date _____

Representative Completing This Report

Title _____ Phone _____

PLEASE COMPLETE AND RETURN QUESTIONAIRE TO THE ABOVE ADDRESS, BY OCTOBER 15, 1973.

FOR INFORMATION ON SUMMARIES CONTACT: THE CONNECTICUT COMMISSION ON HIGHER EDUCATION

J-12/13

SUBJECTIVE

BEST COPY AVAILABLE

Part II - Education

The following questions will yield information pertinent to projections and recommendations. Your responses will be seriously considered for final recommendations made to the Commission for Higher Education for its report to the State Legislature.

In answering questions please use reverse side if necessary.

1. Pertaining to health occupations programs, please enumerate any future plans for expansion, consolidation or deletion. (Include the year of planned change, the extent of the change, and a description of any new programs that may be implemented.)

2. a. Does your institution have a formal placement service? Yes____ No____
If yes:

b. How long has your placement service been operating?

c. Do students utilize the placement service:

never ____ rarely ____ occasionally ____ frequently ____ always ____

d. For what length of time can a graduate use the placement service?

e. Does your placement service keep any follow-up data other than those requested on page 2? Yes____ No____
If yes, please describe data and the form they are in.

3. If you do not have a formal placement service, do you have any informal methods of placement for graduates of health programs? Please describe.

BEST COPY AVAILABLE

4. Do you receive requests from employers regarding graduates of health occupations programs to fill job vacancies:

never rarely occasionally frequently

5. In general, from what types of employers do you receive these requests:

	never	rarely	occasionally	frequently
Hospitals	___	___	_____	_____
Extended Care Facilities and Nursing Homes	___	___	_____	_____
Private Physicians or Dentists Offices	___	___	_____	_____
Industry	___	___	_____	_____
Health Service Organizations	___	___	_____	_____
Other (specify)	___	___	_____	_____

6. What in your opinion are the major barriers to training or employment in the fields for which you have programs?

SUBJECTIVE

SAMPLE

EMPLOYER / EDUCATOR QUESTIONNAIRE

BEST COPY AVAILABLE

Enclosed in this packet you will find:

- ☆ Letter from Chancellor Warren Hill
- ☆ List of health occupations with brief definitions
- ☆ Employer's questionnaire - part one requesting detailed information on the employment of, vacancies for, and expected positions for occupations
- ☆ Employer's questionnaire - part two asking subjective questions
- ☆ Questionnaire requesting information on education/training programs in your institution (yellow sheets).

Please note that the last page carries our business reply and postage.
When the entire questionnaire is completed, simply fold in half, staple, and mail.

The list of occupations with which we are working is comprised of those health occupations for which education/training programs are offered in Connecticut or in neighboring states. At the end of the first part of the questionnaire we have provided spaces for you to include any occupations we have omitted. Please use this space for additional titles, especially those occupations you feel are of significant importance to the health field in Connecticut.

We realize that job titles and definitions may vary and therefore we have provided brief definitions for these occupations. Please refer to these descriptions whenever a question arises as to the function or education of the occupation as listed. If the educational requirements and job functions given comply with your job description, but the job title is different, please use our job title as provided. When additional job titles are added, kindly enclose a short job description for our benefit.

We have asked for a broad spectrum of information in these questionnaires. We realize that some of this information may not be available from your institution. If this is the case, please insert N.A. in the appropriate box. If you wish to indicate that you have no employees, vacancies or expected positions for a particular occupation, please do not leave the appropriate boxes blank. Insert a 0 so that we may correctly code all information.

Additional Definitions:

Full-time, part-time: an employee working 35 or more hours per week is classified as full-time; working less than 35 hours is part-time (definition provided by State Labor Department).

Full-time equivalents (FTE): the total number of hours worked by all employees (both full-time and part-time) for the specified week, divided by 35 (number of hours constituting one full work week).

Vacancy due to Turnover: a vacancy due to the separation of an employee for any reason.

SAMPLE

(over)

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Following are detailed instructions for the first part of the questionnaire:

For column number:

1: Health Occupation Category: please refer to the list of occupations and job descriptions as provided.

NUMBER OF EMPLOYEES

2-5: Enter the total numbers of both full-time (2) and part-time (4) employees, excluding trainees, by occupation, for the week of September 17, 1973. Enter both full-time (3) and part-time (5) female employees.

NUMBER OF JOB VACANCIES

6-8: Enter the total number of job vacancies, as of September 17, 1973 in full-time equivalents (6); enter the total number of full-time and part-time vacancies, if available (7&8).

9-11: Enter the number of job vacancies due to the creation of new positions as of September 17, 1973 (9). Enter full-time and part-time, if available (10&11).

12: So that we may estimate turnover, enter the total number of job vacancies in full-time equivalents for each profession due to turnover during the last year (October 1, 1972 - September 30, 1973) - if not yet available, estimate.

PROJECTIONS

Part of our project involves projections. Therefore, please provide us with the number of budgeted positions (including both vacant and filled positions) estimated for each occupation in 1975 and 1980. In making these projections, please keep in mind the following assumptions:

1. The current economic trend in Connecticut and the nation will continue with no major setbacks.
2. Scientific and technological advances affecting health care services and and health manpower requirements will continue to produce change at approximately the present rate.
3. The present normal hourly workweek at your establishment will continue through the forecast period.
4. You current plans for expansion or modernization will materialize according to schedule.
5. Federal and state funding will stabilize at current levels.

13-14: Indicate the total number of budgeted positions estimated for September 1975 and September 1980, in full-time equivalents.

List of occupations for which there are training programs either in Connecticut or in neighboring states.

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NURSING
Registered Nurse
- Diploma
- A.S.
- B.S.
- M.S.
- Nurse Anesthetist, Registered
- Nurse Midwife
- Adult Nurse Practitioner
- Pediatric Nurse Associate

Licenced Practical Nurse
Nursing Aide
*Child Technician

PHYSICIAN ASSISTANTS
Physician Assistant in Pathology
Physician Assistant

LABORATORY
*Histologic Technician
Cytotechnologist
Certified Laboratory Assistant
Medical Laboratory Technician
Medical Technologist

RADIOLOGY
Radiologic Technologist
Radiation Therapy Technologist

REHABILITATION THERAPY
Physical Therapist
*Physical Therapy Assistant
Physical Therapy Aide
Occupational Therapist
Occupational Therapy Assistant
Speech Pathologist and Audiologist
Recreation Therapist
Recreation Therapy Assistant
*Manual Arts Therapist
*Music Therapist
*Dance Therapist

RESPIRATORY THERAPY
Respiratory Therapist
Respiratory Therapy Technician
Pulmonary Function Technician

DIETETICS
Dietitian
Dietetic Aide

SOCIAL SERVICES
Social Worker, M.S.W.
Social Worker, B.S.
Social Service Aide
Counselor (Rehabilitation Services)
Rehabilitation Aide
Mental Health Worker
Psychiatric Aide
Community Health Aide

MEDICAL RECORDS
*Medical Record Librarian
Medical Records Technician
Medical Transcriptionist

ADMINISTRATION
Health Care (and Services) Administrator
Nursing Home Administrator
Hospital Administrator

ENVIRONMENTAL HEALTH
Environmental Health Technologist
Environmental Health Technician

MEDICAL OFFICE
Medical Secretary
Medical Office Assistant

DENTAL
Dental Hygienist, B.S.
Dental Hygienist, A.S.
Dental Assistant
Dental Laboratory Technician

EDUCATION
Health Educator
Teacher (Special Education)
Child Care Worker
*Medical Librarian

OTHER HEALTH OCCUPATIONS

Pharmacist
Clinical Psychologist
Surgical Technician
Emergency Medical Technician
*Nuclear Medicine Technologist
Ward Clerk
Intravenous Therapy Technician
Electrocardiograph Technician
Electroencephalograph Technician
Orthotist and Prosthetist
*Biomedical Equipment Technician
*Biomedical Engineer, Ph.D.
*Biomedical Engineer, M.S.
*Biological Photographer
*Medical Illustrator

*There are no training programs in Connecticut for this occupation

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Definitions of Health Occupations

Nursing

Registered Nurse: State Licensure. Renders professional nursing care of patients in support of medical care as directed by physician. Maintains patients' medical records on nursing observations and actions. Observes emotional stability of patients, expresses interest in their progress, and prepares them for continuing care after discharge.

Nurse Anesthetist: State Licensure; Registered as a specialist. A registered nurse who has post-graduate training of a formal nature in a recognized program which provides him (or her) with specialized skills in anesthesiology.

Nurse Midwife: Cares for normal obstetrical patients in association with physician. Provides pre- and post-natal care and patient education. Attends home delivery.

Adult Nurse Practitioner: A Registered Nurse with nine months post-graduate training. Works with physician by performing complete histories and physicals. Makes decisions regarding treatment and follows patients with long-term, non-critical types of illnesses.

Pediatric Nurse Associate: Works under supervision of physician. Assumes some of physician's duties as well as providing professional nursing care. Evaluates patient through history and physical assessment. Treats common conditions.

Licensed Practical Nurse: State Licensure. Performs a wide variety of patient care activities and accommodative services for assigned patients, as directed by head nurse or team leader. Assists nurse, staff, or physician.

Nursing Aide: Job training. Performs various patient care activities and related services necessary in caring for the personal needs and comfort of patients, under supervision of registered nurse or staff.

Child Technician: 1 year's training. Works in newborn services and in a capacity in pediatrics under nursing staff supervision.

Physician Assistants

Physician Assistant in Pathology: A physician assistant who is specialized in pathology.

Physician Assistant: An emerging occupation. A skilled person, qualified by academic and clinical training, to provide patient services under the supervision and responsibility of a physician. Academic background may vary.

Laboratory

Histologic Technician: Prepares tissue specimens for microscopic examination by the pathologist. Performs chemical treatment, slicing, mounting, labeling, and tissue file maintenance.

Cytotechnologist: Stains, mounts and studies cells of human body to detect evidence of cancer and other pathological conditions. May be trained in cytogenetics to detect chromosome abnormalities. Provides physician with information needed for diagnosis.

Certified Laboratory Assistant: 1 year's training. Under supervision of medical technologist or physician, assists in performing chemical, bacteriologic, serologic and other tests devised to assist in the identification and diagnosis of disease.

Medical Laboratory Technician: Associate degree. Conducts routine tests in clinical laboratories for use in treatment and diagnosis of disease, and performs related duties, recognizes when a problem arises. Supervised by medical technologist or physician.

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Laboratory, Cont'd.

Medical Technologist: Baccalaureate degree. Performs various chemical, microscopic, and bacteriologic tests to obtain data for use in diagnosis and treatment of disease. Interprets and validates results, corrects technical problems, supervises and instructs other laboratory personnel.

Radiology

Radiologic Technologist: Operates x-ray equipment to make radiographs of designated portions of the body and to provide x-ray therapy to patients under the supervision of an M.D. Radiologist, and performs related duties.

Radiation Therapy Technologist: An emerging occupation. Administers radiation and x-ray equipment, plastic hyperbaric chambers and other laboratory equipment. Keeps informed of latest methods; compiles data for research physician. Shares responsibility for treatment.

Rehabilitation Therapy

Physical Therapist: State Licensure. Plans and conducts medically prescribed physical therapy program for individual patients, involving physical means, such as exercise, massage, heat, water, light and electricity. Applies diagnostic and prognostic muscle, nerve, joint, and functional ability tests.

Physical Therapy Assistant: A skilled, technical worker who performs physical therapy treatments and related duties as assigned by the physical therapist. Works under supervision of physical therapist.

Physical Therapy Aide: Assists with the transportation and preparation of patient for treatment; works under the supervision of physical therapist.

Occupational Therapist: Organizes and conducts program to facilitate rehabilitation of physically or mentally handicapped, involving such activities as manual arts and crafts, practice in functional prevocational and homemaking skills and activities of daily living, and participation in a variety of sensor-motor, educational recreational, and social activities designed to help patients regain physical or mental functioning or adjust to their handicaps.

Occupational Therapy Assistant: Works under the supervision of the professional occupational therapist in the conduct of a program to facilitate rehabilitation of physically or mentally handicapped patients.

Speech Pathologist and Audiologist: Diagnosis, treats and performs research related to speech and language problems. Evaluates causes and test results, and interprets findings to parents, teachers, and others concerned with the patients. Also performs diagnostic, habilitative and rehabilitative services and research related to hearing.

Recreation Therapist: Baccalaureate Degree. Plans, organizes, and directs recreation program for patients in hospitals, similar institutions, and special community groups to affect improvement in their physical, mental and social well-being.

Recreation Therapy Assistant: Associate Degree. Conducts recreational activities for patients in hospitals and other institutions.

Manual Arts Therapist: Baccalaureate. Develops and directs manual arts program as well as its coordination and organization. Gives assistance and direction to patient, and reports progress.

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Rehabilitation Therapy, Cont'd.

Music Therapist: Plans, organizes and directs medically prescribed musical activities intended to improve or change patients' mental outlook to assist in their rehabilitation from mental and physical illness and disabilities.

Dance Therapist: Plans, organizes and directs medically prescribed dance programs in accordance with patient's capabilities, needs and interests to affect improvement in their physical, mental, and social well-being.

Respiratory Therapy

Respiratory Therapist (Respiratory Therapy Technologist): Associate Degree. Under direction of qualified physician, sets up and operates various types of oxygen equipment and other therapeutic gas inhalation machines to administer oxygen and medical gases to patients.

Respiratory Therapy Technician (Respiratory Therapy Assistant): 1 year's training. Under supervision of physician or respiratory therapist, assists in performing inhalation procedures designed to restore normal functioning of the body's respiratory system.

Pulmonary Function Technician: Operates electrical respiratory equipment to assist physicians in their diagnosis and treatment of lung disorders. Responsible to senior technician or physician.

Dietetics

Clinical Dietitian: Directs and supervises hospital personnel concerned with planning, preparing, and serving food to patients and staff. May plan, organize, and conduct dietetics educational programs for nurses, medical and dental interns, medical residents, dietetics interns, and other personnel. May plan and direct preparation of modified diets prescribed by medical staff for patients with therapeutic diet needs. May be certified.

Dietetic Aide: A supportive person on a food service staff who works under supervision of the dietitian. Also known as food service worker.

Social Services

Child Care Worker: Under supervision of teachers or senior workers implements basic techniques of child care in nursery and day-care centers, pre-school programs.

Social Worker: Performs social work functions such as counseling and assisting individuals and families in finding solutions to socio-economic problems and environmental difficulties. Utilizes community resources. May work in a team with other professional workers in diagnosis and treatment. May have Baccalaureate or Master's Degree.

Social Service Aide (Social Work Assistant): Assists clinical social worker in simpler aspects of cases. Under close and regular supervision, aids patients and their families with personal and environmental difficulties which predispose illness or interfere with obtaining maximum benefits from medical care.

Counselor (Rehabilitation Services): Under supervision of a senior worker or other designated professional provides counseling and referral service to patients and clients requiring vocational, or physical rehabilitation. Assists in obtaining training, placement and medical treatment.

Rehabilitation Aide: Provides general assistance to rehabilitation counselor - conducts interviews, researches occupational information, provides referrals to services and follow-ups.

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Social Services, Cont'd.

Mental Health Worker: Under supervision of a senior worker, social worker or other designated member of the staff and as a member of a treatment team participates in rehabilitation of emotionally disturbed patients.

Psychiatric Aide: Under supervision and as a member of a treatment team, provides physical and psychological care to acutely or chronically ill and emotionally disturbed patients.

Community Health Aide: 1 year's training. A health care worker who acts as a liaison between the hospital and the community, and as a friend to the patients in the hospital.

Medical Records

Medical Record Librarian (Medical Records Administrator): Supervises and coordinates activities of personnel engaged in analyzing, compiling, coding, indexing, and filing permanent medical records of patients; assists medical staff in research; prepares periodic and statistical reports; and provides information to authorized persons. Designs systems and methods to make data more accessible; brings unusual or interesting material to attention of medical staff.

Medical Records Technician: Prepares statistical reports, codes diseases and operations according to accepted classification; maintains indexes according to established plans and procedures, and takes records to court. Handles requests for information, carries out routines of follow-up systems for patient care, may tabulate simple data for research and study.

Medical Transcriptionist: Transcribes reports concerning physical examinations, diagnostic tests, and other medical procedures. Responsible to Medical Records Librarian or Supervisor.

Administration

Health Care (and Services) Administrator: Responsible for various aspects of administrative planning, maintenance of acceptable standards, execution of policy, public relations and budgeting. Responsibilities may range from those of a department head to those of an administrator or executive director.

Nursing Home Administrator: State Licensure. Administers, coordinates, and directs all activities of a nursing home to carry out its objectives in the provision of health care and maintenance of patients' well being.

Hospital Administrator: Administers, directs, and coordinates all activities of the hospital to carry out its objectives in the provision of health care, furtherance of education and research, and participation in community health programs.

Environmental Health

Environmental Health Technologist: Baccalaureate degree. Performs investigations in areas of pollution control, sanitary inspections, water treatment and other aspects of environmental health. May also be charged with the responsibility of conserving the environment and enforcing certain minimum standards with regard to environmental control.

Environmental Health Technician: Associate degree. Works under supervision on technical aspects of pollution control, sanitary inspections, water treatment, and other aspects of environmental health.

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Medical Office

Medical Secretary: Prepares case histories, medical records, and reports; utilizes knowledge of medical terminology; and performs general clerical work to relieve medical, professional, and technical personnel of minor administrative and business detail.

Medical Office Assistant: Performs simple tasks to assist physician in office procedures, such as: interviewing patients, checking pulse, blood pressure, weight, and height; sterilizing and cleaning instruments; preparing treatment rooms; operating simple equipment and giving treatments; assisting in laboratory. May schedule appointments, keep records, and receive money for bills.

Dental

Dental Hygienist: State Licensure. Assists dentist in providing oral health care by cleaning, scaling and polishing teeth; taking and processing x-rays and giving instruction to patients on oral hygiene. May plan and deliver lectures to community organizations and other groups. May be graduate of associate or baccalaureate degree program.

Dental Assistant (Office): Assists dentist at chairside during examination and treatment of patients, and performs related clerical duties. May take, develop, and mount x-rays if state dental law allows. Receives patients, arranges appointments, keeps accounts, orders supplies.

Dental Laboratory Technician: Constructs and repairs complete or partial dentures, bridges, crowns, inlays, and other dental restoration according to the mouth impression and prescription prepared by the dentist. Appliances for straightening teeth are constructed and repaired.

Education

Health Educator: Plans, organizes, and directs health education programs for group and community needs. Instructs and informs students and members of professional, service and official public agencies concerning possible solutions to health problems of individuals and the community at large. Organizes and mobilizes voluntary as well as official organizations for the purpose of dealing with and arriving at practical solutions to specific health problems.

Teacher (Special Education): State Licensure. Instructs or supervises instruction of physically, emotionally, perceptually, or intellectually handicapped or exceptionally gifted children.

Child Care Worker: Under supervision of teachers or senior workers implements basic techniques of child care in nursery and day care centers, pre-school programs.

Medical Librarian: Administers and maintains hospital library. Is in charge of selection and classification of materials, reader assistance, and staff and student research assistance. May be certified.

Other Occupations

Pharmacist: State Licensure. Compounds and dispenses medications and other pharmaceutical supplies, using standard physical and chemical procedures to fill written prescriptions issued by physicians, dentists, and other qualified prescribers.

Clinical Psychologist: State Licensure. Diagnoses mental and emotional disorders of individuals, and administers and conducts programs of treatment. Selects, administers, and interprets intelligence, achievement, interest personality, and other psychological tests to diagnose disorders and formulate plans of treatment. Applies psychological techniques to problems in group and individual adjustment. May conduct research in fields of personality development and adjustment.

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Other Occupations, Cont'd.

Surgical Technician: Performs a variety of duties in an operating room to assist the surgical team before, during, and after surgery.

Emergency Medical Technician: Responds to directions from dispatcher, drives ambulance to location of emergency; enlists assistance of police or others to create a safe traffic environment. Responsible for providing immediate transportation and emergency care of the critically ill and injured.

Nuclear Medicine Technologist: Operates radioscopic equipment, such as scintillation detectors and scanners, to produce scanograms, and measure concentrations of radioactive isotopes for administration to patient. Performs laboratory tests and computes results for use by physician. Is responsible for disposal of radio-active waste, safe storage of radio-active material, and inventory and control of radiopharmaceuticals.

Ward Clerk (Ward Secretary) Performs general clerical duties by preparing, compiling, and maintaining records in a hospital nursing unit.

Intravenous Therapy Technician: Under medical supervision and following established guidelines, prepares and administers fluids intravenously; and observes, records and reports on patients' and/or blood donors' reactions.

Electrocardiograph Technician: Records electromotive variations in action of heartmuscle on an electrocardiograph for diagnosis of heart ailments. Studies patient records to record identifying information for EKG records. Prepares and positions patients, attaches electrodes, reviews recording for clarity and deviations. Keeps machine in general working order, and reports malfunctions to repairman.

Electroencephalograph Technician: Measures by means of electroencephalograph (EEG), impulse frequencies and differences in electrical potential between various areas of the brain, to obtain data for use in diagnosis of brain disorders. Analyzes patients' records for pertinent history in order to be alert for symptoms during test. Studies characteristics of tracings and calls attention to unusual patterns which may indicate brain disorders. Submits data and tracings to physician for diagnosis.

Orthotist and Prosthetist: Constructs and repairs corrective devices, such as braces and artificial limbs, to minimize disabilities caused by injuries, amputation, and deformity of spine and limbs. Usually orthotists make and fit corrective devices, while prosthetists build and fit artificial limbs. All work is performed to a prescription by physician.

Biomedical Equipment Technician: Tests and repairs electromedical equipment such as electrocardiographs, sterilizers, operating room lamps and tables, and diathermy machines, following schematic diagrams and using hand tools and test meters.

Biomedical Engineer: May be involved in 1) research of biological systems and functions for better diagnosis and treatment; 2) the design and development of life supporting devices such as heart-lung machines, pacemakers, artificial limbs; and 3) the adaptation of computer systems for medical use such as cardiac monitors. May have Master's or Ph.D. degree.

Biological Photographer: Photographs medical, biological and allied phenomena to provide illustrations for scientific publications, records, research and teaching purposes. Also, may do darkroom and related work.

Medical Illustrator: Makes sketches and other forms of illustration of anatomical and pathological specimens, microorganisms, plant and animal tissue. May prepare paintings, models and visual aids for research and teaching.

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CONNECTICUT INSTITUTE FOR HEALTH
MANPOWER RESOURCES, INC.

770 ASYLUM AVENUE
HARTFORD, CONNECTICUT 06105
SELMA L. MARKOWITZ, MPH, EXECUTIVE DIRECTOR

PLEASE COMPLETE AND RETURN
QUESTIONNAIRE BY OCTOBER 15, 1973

(CALL 247-5677 FOR ANY PROBLEMS FILLING OUT QUESTIONNAIRE)

CONNECTICUT
1973 SURVEY OF EMPLOYMENT
OF HEALTH
PROFESSIONALS PAGE 1

HEALTH OCCUPATION CATEGORY	NUMBER OF EMPLOYEES (EXCLUDING TRAINEES) FOR THE WEEK OF: SEPTEMBER 17, 1973				NUMBER OF JOB VACANCIES AS OF SEPTEMBER 17, 1973							PROJECTIONS TOTAL NUMBER OF BUDGETED POSITIONS EXPECTED ON:	
	FULL-TIME		PART-TIME		TOTAL NUMBER OF JOB VACANCIES			OF THESE, HOW MANY ARE NEW POSITIONS ?			ANNUAL TURNOVER (NUMBER)		
	TOTAL	FEMALE	TOTAL	FEMALE	TOTAL (FTE)	FULL-TIME	PART-TIME	TOTAL (FTE)	FULL-TIME	PART-TIME	TOTAL (FTE)	SEPT. 1975	SEPT. 1980
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
Registered Nurse (total)													
R.N., Diploma													
" A.S.													
" B.S.													
" M.S.													
Nurse Anesthetist, Registered													
Nurse Midwife													
Adult Nurse Practitioner													
Pediatric Nurse Associate													
Licensed Practical Nurse													
Nursing Aide													
Child Technician													
Physician Assistant in Pathology													
Physician Assistant													
Histologic Technician													
Cytotechnologist													
Certified Laboratory Assistant													
Medical Laboratory Technician													
Medical Technologist													

SAMPLE

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CONNECTICUT

1973 SURVEY OF EMPLOYMENT

OF HEALTH

PROFESSIONALS PAGE 2

HEALTH OCCUPATION CATEGORY	NUMBER OF EMPLOYERS (EXCLUDING TRAINEES) FOR THE WEEK OF: SEPTEMBER 17, 1973				NUMBER OF JOB VACANCIES AS OF SEPTEMBER 17, 1973						ANNUAL TURNOVER (NUMBER)	PROJECTIONS OF BUDGETED POSITIONS EXPECTED ON JAN.	
	FULL-TIME		PART-TIME		TOTAL NUMBER OF JOB VACANCIES			OF THESE, HOW MANY ARE NEW POSITIONS ?				SEPT. 1975	SEPT. 1980
	TOTAL		TOTAL		TOTAL (FTE)	FULL-TIME	PART-TIME	TOTAL (FTE)	FULL-TIME	PART-TIME	TOTAL (FTE)		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
Radiologic Technologist													
Radiation Therapy Technologist													
Physical Therapist													
Physical Therapy Assistant													
Physical Therapy Aide													
Occupational Therapist													
Occupational Therapy Assistant													
Speech Pathologist and Audiologist													
Recreation Therapist													
Recreation Therapy Assistant													
Manual Arts Therapist													
Music Therapist													
Dance Therapist													
Respiratory Therapist													
Respiratory Therapy Technician													
Pulmonary Function Technician													
Dietitian													
Dietetic Aide													
Social Worker, M.S.W.													
Social Worker, B.S.													
Social Service Aide													
Counselor (Rehabilitation Service)													
Rehabilitation Aide													

SAMPLE

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CONNECTICUT

1973 SURVEY OF EMPLOYMENT

OF HEALTH

PROFESSIONALS PAGE 3

HEALTH OCCUPATION CATEGORY	NUMBER OF EMPLOYEES (EXCLUDING TRAINEES) FOR THE WEEK OF: SEPTEMBER 17, 1973				NUMBER OF JOB VACANCIES AS OF SEPTEMBER 17, 1973						ANNUAL TURNOVER (NUMBER)	PROJECTIONS TOTAL NUMBER OF BUDGETED POSITIONS EXPECTED ON:	
					TOTAL NUMBER OF JOB VACANCIES			OF THESE, HOW MANY ARE NEW POSITIONS ?					
	FULL-TIME		PART-TIME		TOTAL (FTE)	FULL-TIME	PART-TIME	TOTAL (FTE)	FULL-TIME	PART-TIME	TOTAL (FTE)	SEPT. 1975	SEPT. 1980
	TOTAL	FEMALE	TOTAL	FEMALE									
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
Mental Health Worker													
Psychiatric Aide													
Community Health Aide													
Medical Records Librarian													
Medical Records Technician													
Medical Transcriptionist													
Health Care (and Services) Administrator													
Nursing Home Administrator													
Hospital Administrator													
Environmental Health Technologist													
Environmental Health Technician													
Medical Secretary													
Medical Office Assistant													
Dental Hygienist, B.S.													
Dental Hygienist, A.S.													
Dental Assistant													
Dental Laboratory Technician													
Health Educator													
Teacher (Special Education)													
Child Care Worker													
Medical Librarian													
Physicist													
Clinical Psychologist													

SAMPLE

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CONNECTICUT

1973 SURVEY OF EMPLOYMENT OF HEALTH PROFESSIONALS PAGE 4

HEALTH OCCUPATION CATEGORY	NUMBER OF EMPLOYEES (EXCLUDING TRAINEES) FOR THE WEEK OF: SEPTEMBER 17, 1973				NUMBER OF JOB VACANCIES AS OF SEPTEMBER 17, 1973						ANNUAL TURNOVER (NUMBER)	PROJECTIONS TOTAL NUMBER OF BUDGETED POSITIONS EXPECTED ON:	
					TOTAL NUMBER OF JOB VACANCIES			OF THESE, HOW MANY ARE NEW POSITIONS ?					
	FULL-TIME		PART-TIME									SEPT.	SEPT.
	TOTAL	FEMALE	TOTAL	FEMALE	TOTAL (FTE)	FULL-TIME	PART-TIME	TOTAL (FTE)	FULL-TIME	PART-TIME	TOTAL (FTE)	1975	1980
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
Surgical Technician													
Emergency Medical Technician													
Nuclear Medicine Technologist													
Ward Clerk													
Intravenous Therapy Technician													
Electrocardiograph Technician													
Electroencephalograph Technician													
Orthotist and Prosthetist													
Biomedical Equipment Technician													
Biomedical Engineer, Ph.D.													
Biomedical Engineer, M.S.													
Biological Photographer													
Medical Illustrator													

Sample

Signature _____ Date _____

Representative Completing This Report

Title _____ Phone _____

PLEASE COMPLETE AND RETURN QUESTIONNAIRE TO THE ABOVE ADDRESS, BY OCTOBER 15, 1973.

FOR INFORMATION ON SUMMARIES CONTACT:

THE CONNECTICUT COMMISSION ON HIGHER EDUCATION

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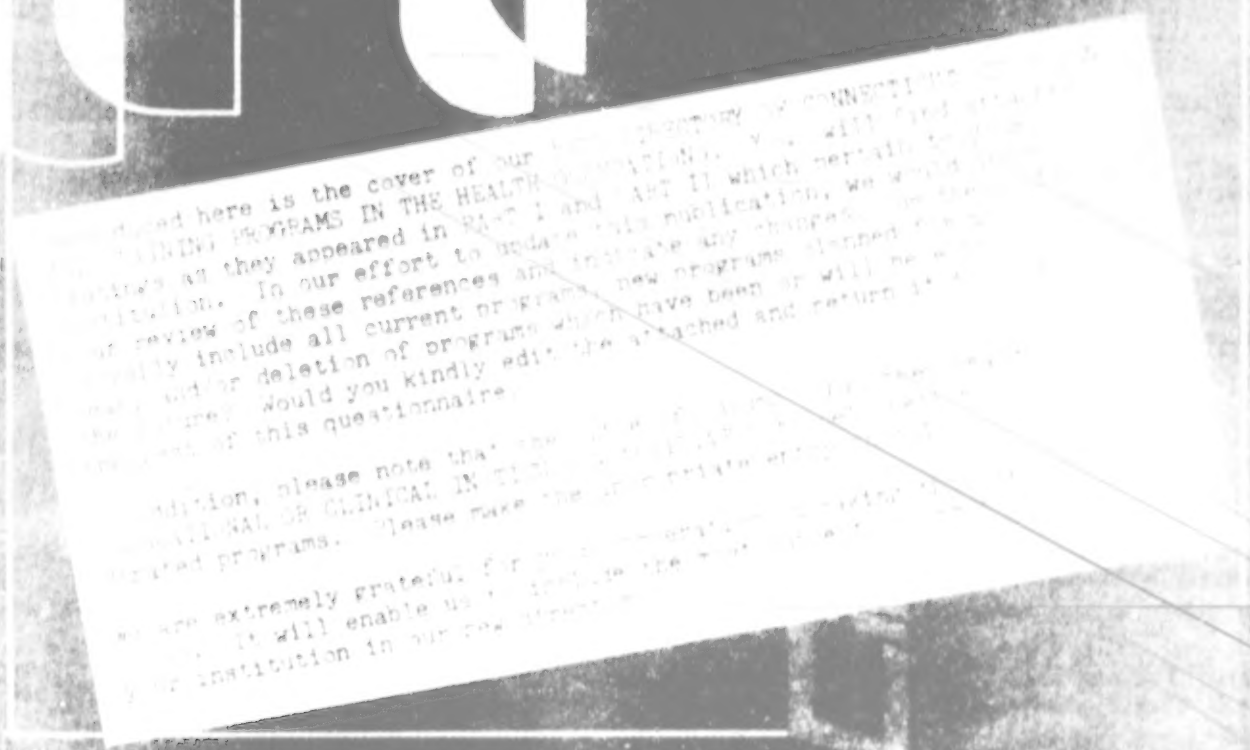
Health Careers In Connecticut

EDUCATION AND TRAINING PROGRAMS



PREPARED BY
THE CONNECTICUT INSTITUTE FOR HEALTH MANPOWER RESOURCES, INC.

PART I

CI AFFH - 770 ASTEBM AVE. HART

INSTITUTION	HEALTH OCCUPATION PROGRAM	CONTACT NAME	CONTACT TELEPHONE

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ART II

EDUCATIONAL OR
CLINICAL INSTITUTION
AFFILIATES.

OCCUPATION	INSTITUTING AGENCY	NATURE OF PROGRAM	ENTRANCE REQUIREMENTS	[redacted]	AVERAGE CLASS SIZE	TUITION AND FEES	STIPEND OR TRAINING WAGE	CREDENTIALS EARNED
RSING AIDE 5.878	Bridgeport Hospital	6-8 weeks of academic and on-the-job training. Most programs designed to include males (orderlies) and females (nurse aides).	H.S. Diploma	None		None Dormitory facilities not available	Contact hospital	Certificate

ample

t your institution:

CONNECTICUT ASSOCIATION OF EXTENDED HEALTH CARE FACILITIES, INC.

102 Elm Street, West Haven, Connecticut 06516 Area Code 203-933-2535

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September 15, 1973

To The Administrators of Extended Care Facilities:

I urge your cooperation in supplying the data asked for in the attached questionnaire. This information is to be submitted to the legislature, and therefore it is necessary that returns are in by October 15th.

The information gathered by this will be helpful in the planning and delivery of educational programs for health personnel state-wide.

Thank you for your immediate attention.

Very truly yours,

Francis P. Dellafera

Francis P. Dellafera
President

lbh

RATE OF RESPONSE
FOR
SURVEY QUESTIONNAIRE

Type of Institution	Number Surveyed	No. of Returns	% Response
HOSPITALS	60	56	93.3%
EDUCATIONAL INSTITUTIONS	98	89	90.8%
NURSING HOMES	211	57	27.0%
REST HOMES WITH NURSING SUPERVISION	64	15	23.4%
DENTAL LABORATORIES	70	22	31.4%
VISITING NURSE ASSOCIATIONS	95	60	63.1%
CLINICAL LABORATORIES	139	46	33.1%
INDUSTRIAL INFIRMARIES	248	72	29.0%
SCHOOL INFIRMARIES	43	14	32.5%
AMBULANCE SERVICES	179	29	16.2%
LOCAL HEALTH DEPARTMENTS	20	5	25.0%
CLINICS	54	10	18.5%
VOLUNTARY HEALTH ORGANIZATIONS	24	9	37.5%
NEIGHBORHOOD HEALTH CENTERS AND HEALTH MAINTENANCE ORGANIZATIONS	11	5	45.4%
MD GROUP PRACTICES	88	20	22.7%
PHYSICAL THERAPY CONTRACTORS	6	5	83.3%
STATE AGENCIES & EMPLOYEES	137	121	88.3%
TOTALS	1,547	635	41.0%

Note: The number of returns reflects only whether or not the questionnaire was returned with useable information. Returns may vary in the report due to a different rate of return for each section. Returns may even be higher in cases where the information was given in an interview.

MAILING LIST
SOURCES AND NUMBERS OF FACILITIES

Type of Facility	Total No. Acquired	Sources
*HOSPITALS	60	Connecticut State Department of Health; Connecticut Hospital Association
EDUCATIONAL INSTITUTIONS	98	Commission for Higher Education; Connecticut State Department of Education, Division of Vocational Education; Connecticut Institute for Health Manpower Resources, Inc.
*NURSING HOMES AND REST HOMES WITH NURSING SUPERVISION	275	Connecticut State Department of Health
DENTAL LABORATORIES	70	Connecticut State Dental Laboratory Association
VISITING NURSE ASSOCIATIONS	95	Connecticut State Department of Health, Public Health Nursing Division
*CLINICAL LABORATORIES	139	Connecticut State Department of Health, Laboratory Division
INDUSTRIAL INFIRMARIES	248	Connecticut State Department of Health, Occupational Health Section
*SCHOOL INFIRMARIES	43	Connecticut State Department of Health, Public Health Division, Education Section

AMBULANCE SERVICES	179	Connecticut Ambulance Service, Inc.
LOCAL HEALTH DEPARTMENTS	20	Connecticut State Department of Health
CLINICS	54	Connecticut State Drug Advisory Council
VOLUNTARY HEALTH ORGANIZATIONS	24	Connecticut Hospital Association; Connecticut Health League; American Red Cross
NEIGHBORHOOD HEALTH CENTERS AND HEALTH MAINTENANCE ORGANIZATIONS	11	Connecticut State Department of Health
M.D. GROUP PRACTICES	88	Connecticut State Department of Health; American Medical Assn.
PHYSICAL THERAPY CONTRACTORS	6	American Physical Therapy Assn.
STATE AGENCIES AND EMPLOYEES	137	Connecticut State Register& Manual

*Note: Asterisked institutions are those which represent a complete list of that type of facility. It was attempted to include as complete a list as possible for remaining facilities. In some cases the completeness was dependent upon membership in a professional organization, licensing lists and selection of major offices over sub-divisions. For state agencies and employees, the number reflects the number of questionnaires distributed, the majority of which are concerned with public school health personnel.